



Women's Health Victoria

"facilitating access to quality women's health information"

Access To Women's Health Information

**A Survey
of
Victorian Women as Information Seekers**

**Market Research
2002-2003
for
Women's Health Victoria**

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2. **A survey of Victorian women as information seekers**
3. A literature review of health professionals as information providers
4. Issues for opinion leaders and service providers
5. Research summary

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EXECUTIVE SUMMARY

Women's Health Victoria commissioned Market Access, an independent market research company, to undertake a survey of Victorian women regarding their health information needs.

This study was conducted as one component of a comprehensive study of Victorian women's health information needs. Other components of the study include a review of published literature regarding women's health information needs, a review of literature regarding the health information usage by health providers and qualitative studies amongst opinion leaders and influencers in the field of women's health. The present study was based on the outcomes of the review of literature regarding women's access to health information.

The objectives of this survey focussed on identifying women's active and passive sources of health information, identifying their preferred channels for accessing health information, and exploring perceptions of the quality of health information and the difficulties women experienced accessing health information.

A total of 500 Victorian adult women were surveyed, with the sample being selected to reflect metropolitan and rural population breakdowns. The results showed some age group differences in experiences of health information, with three somewhat distinct age categories being identified: younger (18-34 year old), mid-aged (35-54) and older women (55+).

Across the whole sample, the main active sources of health information were doctors, followed by family and friends, pamphlets, pharmacists and books. The main passive sources of health information were family and friends, followed by doctors, pamphlets and books. For both passive and active approaches to information gathering, younger women were more likely to rely on family and friends, pamphlets, magazines and the internet, while older women were more likely to rely on doctors as a passive source of health information.

Doctors were by far the preferred source of health information, being rated as such by three-quarters of women. The only other preferred sources mentioned by more than 5% of women were the internet and family and friends.

The findings in relation to internet usage suggest that access to the internet is increasing in comparison with what has been reported in previous studies, and that this medium is becoming more widely used for accessing health information. Consistent with previous Australian research, those who currently use the internet for health information tend to be younger, university educated, have a higher income and have dependent children. Interestingly, use of the internet to access health information was not associated with geographic location, language spoken at home or current health status.

Overall, the survey suggested that women rated the quality of health information that is available quite highly. However, while only a small proportion rated the overall quality as poor, one-quarter of the sample gave it a neutral rating, indicating that they are not currently satisfied with the health information they obtain. Doctors were rated highest in terms of quality of information they provided, followed by the pharmacists, books and pamphlets.

Those who spoke a language other than English at home and those without a regular GP were more likely to rate the information they received as being of lower quality. Possible explanations postulated for these findings could be linked to the continuity of care afforded to those who have a regular GP and the difficulties experienced accessing language specific information for those from non-English speaking backgrounds.

Almost one in ten women surveyed reported experiencing difficulty accessing health information. This experience was more common amongst those with no dependent children, who tended to be older, not partnered, less in touch with electronic media, have lower incomes and have long-term health problems: factors that might conceivably contribute to difficulties accessing information.

Of those who reported having specific concerns about accessing health information there were two distinct groups of people: on the one hand were the well-educated mid-age women, with partner, children and internet access, who most likely have high expectations for the quality of information they require. On the other hand were the older, unwell, single, separated or widowed women, who were less well-educated and not linked to the internet, who most likely have specific condition-related needs and who are perhaps relatively out-of-touch with current information sources.

In summary, the present survey generally supports previously documented findings regarding women's access to health information. In particular, this study provides an up-to-date snapshot of the use and perceptions of various sources of health information for Victorian women.

BACKGROUND

Women's Health Victoria (WHV) is a state-wide women's health information service that aims to provide high quality, independent and up-to-date information to women, health service providers, and policy makers. To assist WHV in its' strategic development, Market Access, an independent market research company, was commissioned to undertake a study of the health information needs of women. The overall aim of the project was to identify how WHV can ensure better quality access to health information for women.

The study involved several components, including:

- A review of the literature regarding issues associated with women's access to health information.
- A review of the literature regarding issues related to service provider's access to and use of health information.
- A survey of Victorian women to quantify issues related to accessing health information.
- A study of opinion leaders and influencers in the field of women's health.

Each of these components of the project has been reported separately. The component of the study relevant to this report involved a survey of Victorian women. The survey sought to expand on the findings of the review of literature regarding women's access to health information. In particular, this survey was designed to explore issues related to Victorian women's access to health information. Issues of concern to the survey included identifying women's active and passive sources of health information, identifying their preferred channels for accessing health information, exploring perceptions of the quality of health information and exploring difficulties experienced in accessing health information.

The review of literature indicated that it is important to differentiate active and passive health information seeking, and that it has not always been clear in previously documented research whether such a distinction was made. Active and passive information sources are differentiated on the basis of their impact on the health behaviours, with information from active sources considered to be more important in promoting health related behaviour change. This distinction has been taken into account in the present study.

The previous literature review suggested that the internet was an important emerging medium for accessing health information and that it is surpassing some other active sources of health information such as telephone helplines and written resources. While that review identified that some data was available about usage of the internet, it was apparent that, being a new medium, rates of usage were changing rapidly and there were some gaps in our knowledge of who was using the internet and of the usefulness of this medium to specific groups of women.

OBJECTIVES

The aims of the present study were to:

- investigate women's commonly used information sources, both active and passive;
- provide a profile of users for each information source;
- identify women's preferred information source;

- assess the relative quality of health information obtained from each source;
- identify a profile of women who rate available health information as being of poor quality;
- identify a profile of women who have difficulty or concerns about obtaining quality health information;
- document women's main concerns about obtaining quality health information.

RESEARCH APPROACH AND METHOD

METHODOLOGY

SAMPLE

A sample of 500 women aged 18 and over was selected to represent Victorian women. Women were sampled from across Victoria with a quota being placed on metropolitan and non-metropolitan women to reflect the population proportions (72% cf. 28% respectively).

PROCEDURE

A CATI (computer assisted telephone interviews) technique was used for the survey. Other than the geographic quotas, respondents were randomly selected.

The sample size of 500 was selected as being sufficiently robust that in addition to a reasonable level of confidence in overall findings some exploration could be conducted to identify and compare groups.

Standard industry call protocols were used, such as a minimum of 6 calls being made to each household in order to establish contact, with calls being programmed to be spread over weekdays during the day, weekday evenings and weekends. This method seeks to maximise the representativeness of the sample of respondents.

When making the call, interviewers explained to respondents that we were "conducting a survey amongst Victorian women to find out about their health information needs so Women's Health Victoria can better provide for these needs". Interviewers asked to speak to the youngest female aged 18 years or over at home at the time. If necessary a call back was arranged.

QUESTIONNAIRE

Sources of health information assessed were: telephone helplines, books (including medical texts), pamphlets, the internet, family and friends, doctors (GPs), chemists/pharmacists, other health care providers (HCPs), television, magazines, newspapers, and radio. In each case, the proportion of respondents using the source for active (deliberate) and passive (incidental) use was assessed. An overall preferred information source was recorded.

A rating of quality was provided for health information received from each source, using a 5-point likert scale from very poor to very good. In addition, overall ratings were provided for quality of health information available (5-point scale from very poor to very good) and difficulty accessing health information (5-point scale from very difficult to very easy), regardless of source. The proportion of respondents with any particular concerns in relation to obtaining high quality health information was recorded. In each case, the main concern was recorded verbatim.

Several categorical demographic variables were created based on interview responses, namely:

- age (18-34 years/35-54 years/55+ years);
- partner status (partnered/not partnered);
- dependent children status (has dependent children/no dependent children);
- location 2-category (metropolitan/other) determined by postcode;
- location 4-category (Melbourne/regional centre/county town/ rural or remote) determined by self-report;
- education level (primary or low secondary/secondary or trade/undergraduate or postgraduate university degree);
- income (<\$40,000/40,000-79,999/80,000+);
- language spoken at home (English/other);
- internet access at home or work (yes/no);
- GP status (has regular GP/no regular GP);
- own health status (has long term health condition, impairment or disability/no health condition); and
- relative health status (family member has long term health condition, impairment or disability/family member does not have health condition).

A copy of the questionnaire is included in the Appendices of this report.

ANALYSES

A combination of univariate and multivariate analysis techniques was used to analyse the data, with appropriate statistical tests, using a 95% confidence level, unless otherwise indicated. All analyses were undertaken using SPSSx 10.0.

In investigating active and passive information sources used, proportions were calculated and tabulated in rank order. For both passive and active sources, the chi-square statistic was used to investigate age-group differences. For the key information sources regarded as amenable to change and relevant to WHV – namely doctors, family and friends, pamphlets, books, internet, and telephone helplines – a ‘profile of users’ (active use only) was identified using both chi-square and logistic regression analyses.

In investigating preferred source, proportions were calculated for the full sample and for each age group separately. In assessing the quality of health information obtained from each information source, a mean quality rating was calculated for each source. Age-group differences in quality ratings were explored using chi-square (χ^2). Chi-square and logistic regression were used to provide a profile of women who (a) rated the quality of information from all sources as ‘very poor’ or ‘poor’; (b) found it ‘very difficult’ or ‘difficult’ to access information they needed; and (c) had concerns about accessing quality information. Concerns reported were classified into five groups. Chi-square was used to provide a profile of women expressing each concern.

In the text reporting these analysis, the following abbreviations are used:

- χ^2 – chi-square
- CI – Confidence Interval

CHARACTERISTICS OF THE SAMPLE

In total, 500 women were interviewed. To achieve 500 successful interview a total of 1522 contacts were made with potential in-scope respondents. This represents a response rate of approximately 33%. Characteristics of the sample are shown in table 1.

Table 1. Characteristics of women interviewed.

Characteristic		N (%)
Age		
	18-34	132 (26.4)
	35-54	201 (40.2)
	55+	167 (33.4)
Family / living status		
	Partnered	356 (71.2)
	Has dependent children	227 (45.4)
Location		
	Part of Melbourne	327 (65.4)
	Regional centre	63 (12.6)
	Country town	81 (16.2)
	Rural or remote area	28 (5.6)
Location (determined by quotas)		
	Metropolitan	360 (72.0)
	Non metropolitan	140 (28.0)
Education level		
	Primary or low secondary	145 (29.0)
	Completed secondary or trade	217 (43.4)
	Undergraduate or postgraduate degree	138 (27.6)
English spoken at home		476 (95.2)
Internet access at home or work		315 (63.0)
Health Status		
	Has regular GP	461 (92.2)
	Has long term health condition	61 (12.2)
	Family member has a long term health condition	78 (15.6)
Income		
	<\$40,000	155 (42.3)
	\$40,000 - \$79,999	136 (37.2)
	\$80,000+	75 (20.5)

Note. N=500, except income where N=366. Missing data due to respondent refusal (n=73) or inability to estimate (n=61).

Age ranged from 18 to over 75, with three relatively equal age-groups, as shown in Table 1. Most women were partnered, and just under half had dependent children living with them. The majority were living in Melbourne, with smaller proportions living in regional, country or rural areas. Education level varied from primary or some secondary, through to university level. For most women, English was the main language spoken at home. Other languages represented included Greek (n=3), Italian (n=2), Cantonese (n=2), Vietnamese (n=2), Arabic/Lebanese (n=1), and a variety of 'other' languages (n=13).

Almost two thirds of women had internet access at home or work, while almost all had a regular GP. Only a minority had a long term health condition, or had an immediate family member with a long term health condition. Annual income varied from less than \$20,000 to over \$150,000.

PROFILE OF THE THREE AGE GROUPS

A profile of women in each of the three age-groups is provided, based on significant chi-square associations. This helps in the interpretation of age-group differences presented throughout this report.

Younger women (18-34 years)

Younger age was associated with having dependent children ($p<.001$), having a main language other than English ($p=.014$), having internet access ($p<.001$), not having a regular GP ($p=.02$), not having a chronic health condition ($p=.037$), having either secondary/trade, or university level education ($p<.001$), and having an annual income of \$40,000 to \$79,999.

Mid-age women (35-54 years)

Mid-age was associated with being partnered ($p<.001$), having dependent children ($p<.001$), having internet access ($p<.001$), having university level education ($p<.001$), and having an annual income greater than \$80,000 ($p<.001$).

Older women (55+ years)

Older age was associated with being unpartnered ($p<.001$), having no dependent children ($p<.001$), having no internet access ($p<.001$), having a chronic health condition ($p=.037$), having a family member with a chronic health condition ($p=.042$), having primary or partial secondary level education ($p<.001$), and having an annual income less than \$40,000 ($p<.001$).

As will be demonstrated throughout this report, these three distinct groups of women tend to have specific methods for accessing health information and specific needs and concerns regarding obtaining high quality health information.

DETAILED FINDINGS

In order to address the information objectives, this report is divided into four main sections:

- Sources of health information (Active & Passive)
- Quality of health information
- Difficulty accessing health information
- Concerns about health information

SOURCES OF HEALTH INFORMATION

ACTIVE INFORMATION SOURCES

Respondents were asked about the sources of health information they had used when there was a particular health issue of concern to them. This was a prompted question, with responses being an indication of active information sources.

Table 2 shows the proportion of women indicating having used each of the stated information sources when actively seeking health information regarding a particular health issue of concern. Sources are ranked from most to least common. Proportions are also given separately for the three age groups, with significant differences indicated.

Table 2. Active information sources: proportions for full sample and for each age group separately

Source	Total sample	Age group n (%)			χ^2	p
		18-34 (n=132)	35-54 (n=201)	55+ (n=167)		
Doctors	479 (95.8)	125 (94.7)	194 (96.5)	160 (95.8)	ns	ns
Family & friends	382 (76.4)	117 (88.6)	160 (79.6)	105 (62.9)	29.05	<.001
Pamphlets	343 (68.6)	97 (73.5)	147 (73.1)	99 (59.3)	10.11	.006
Pharmacist	323 (64.6)	97 (73.5)	135 (67.2)	91 (54.5)	12.60	.002
Books ¹	303 (60.6)	79 (59.8)	139 (69.2)	85 (50.9)	12.77	.002
Other HCPs ²	207 (41.4)	67 (50.8)	94 (46.8)	46 (27.5)	20.36	<.001
Magazines	206 (41.2)	61 (46.2)	90 (44.8)	55 (32.9)	7.14	.028
Newspaper	206 (41.2)	49 (37.1)	93 (46.3)	64 (38.3)	ns	ns
Television	201 (40.2)	58 (43.9)	95 (47.3)	48 (28.7)	14.06	.001
Internet	159 (31.8)	56 (42.4)	83 (41.3)	20 (12.0)	45.48	<.001
Radio	159 (31.8)	37 (28.0)	70 (34.8)	52 (31.1)	ns	ns
Telephone help lines	37 (7.4)	14 (10.6)	19 (9.5)	4 (2.4)	9.32	.009

Note. N=500. ¹including medical texts; ²health care professionals. Statistical test=chi square test of significance. ns=no significant difference between groups. Bold indicates higher proportion(s) for each source.

As shown in table 2, doctors were the most common source of health information amongst health seeking women across all three age groups, with over 95% of women indicating having sought information from doctors. Family and friends were the next most common source, particularly amongst younger women. Pamphlets and pharmacists were also commonly used

sources, again most particularly amongst women in the younger and, to a lesser extent, mid-age groups. Books were used more commonly by mid-age women.

All other sources were used by fewer than 50% of the sample, including popular media (magazines, newspapers, television and radio) and the internet. Not surprisingly, the internet was used by over 40% of younger and mid-age women, but was used by only a small minority of older women. Telephone help lines were the least commonly used information sources amongst health information seeking women across all age groups and particularly older women. Notably, across all information sources, the proportion of users tended to be lower amongst older women.

In order to describe users of the main active information sources relevant to a health information provider such as WHV, associations between each of these main sources and all demographic variables were explored using the chi-square statistic. In each case, variables found to be significant in the bivariate (chi-square) analysis were entered into a logistic regression analysis to identify the key predictors of use. Due to the large amount of missing data for income, logistic regressions were run first with income excluded (N=500) and second with income included (N=366). Results of these analyses are detailed below for each of the key information sources separately.

Who uses doctors?

Use of doctors as an information source was not significantly associated with any of the demographic variables, largely due to the fact that almost all respondents had obtained health information from their GP. However, women with a regular GP tended to be more likely to have received information from the GP: this association approached statistical significance ($\chi^2=3.86$, $p=.05$). As there were no competing variables, logistic regression was not performed.

Who uses family and friends?

Use of family and friends as an information source was associated with being younger or mid-age ($\chi^2=29.05$, $p<.001$), being partnered ($\chi^2=6.56$, $p=.01$), having dependent children ($\chi^2=15.44$, $p<.001$), having internet access ($\chi^2=6.12$, $p=.013$), and not having a health condition ($\chi^2=19.17$, $p<.001$). It was not associated with location, GP status, education level, language spoken at home, income level, or relative health status.

In logistic regression, younger age (OR=3.63; 95% CI=1.82-7.22; $p<.001$), mid-age (OR=2.14; 95% CI=1.11-4.13; $p=.022$), and no health condition (OR=0.36; 95% CI=0.20-0.65; $p=.001$) emerged as significant, independent predictors of using family and friends for health information.

Who uses pamphlets?

Use of pamphlets was associated with being younger or mid-age ($\chi^2=10.11$, $p=.006$), having dependent children ($\chi^2=6.60$, $p=.01$), having internet access ($\chi^2=15.79$, $p<.001$), and high income ($\chi^2=10.15$, $p=.006$). It was not associated with partner status, location, GP status, education level, language spoken at home, own health status, or relative health status.

In logistic regression (N=500), having internet access (OR=1.84; 95% CI=1.20-2.83; $p=.005$) emerged as the only significant, independent predictors of use of pamphlets. When income was entered into the logistic regression analysis (N=366), there were no significant, independent predictors of pamphlet use. This was most likely due to the high associations with income and

several other demographic variables, which were therefore competing for variance in the logistic regression analysis.

Who uses books?

Use of books was associated with having internet access ($\chi^2=10.52$, $p=.001$), high income ($\chi^2=8.72$, $p=.013$), secondary/trade level education ($\chi^2=8.28$, $p=.016$), and a chronic health condition ($\chi^2=3.87$, $p=.049$). It was not associated with age, partner or dependent children status, location, GP status, language spoken at home, or relative health status.

In logistic regression (N=500), having internet access (OR=1.80; 95% CI=1.20-2.70; $p=.004$) and having a health condition (OR=2.20; 95% CI=1.19-4.06; $p=.011$) emerged as independent predictors of use of books. Likewise, when income was included in the logistic regression analysis (N=366), having internet access (OR=1.71; 95% CI=1.01-2.92; $p=.048$) and having a health condition (OR=2.30; 95% CI=1.15-4.60; $p=.018$) remained the significant, independent predictors.

Who uses the internet?

Use of the internet was associated with being younger or mid-age ($\chi^2=45.48$, $p<.001$), being partnered ($\chi^2=5.24$, $p=.022$), having dependent children ($\chi^2=13.17$, $p<.001$), having an undergraduate or postgraduate degree ($\chi^2=47.34$, $p<.001$), having internet access at home or work ($\chi^2=106.28$, $p<.001$), and high income ($\chi^2=44.78$, $p<.001$). It was not associated with location, GP status, language spoken at home, own health status, or relative health status.

In logistic regression (N=500), having internet access (OR=15.00; 95% CI=6.64-33.90; $p<.001$), having a university degree (OR=2.59; 95% CI=1.36-4.94; $p=.004$), and younger age (OR=2.20; 95% CI=1.10-4.37; $p=.025$) emerged as significant, independent predictors of internet use. When income was included in the logistic regression (N=366), internet access (OR=12.53; 95% CI=4.70-33.38; $p<.001$) and university level education (OR=1.85; 95% CI=1.04-3.30; $p=.038$) emerged as the significant, independent predictors.

Who uses telephone helplines?

Use of telephone helplines was associated with being younger ($\chi^2=9.32$, $p=.009$), having dependent children ($\chi^2=9.97$, $p=.002$), mid level income ($\chi^2=8.26$, $p=.016$), and living in metropolitan Melbourne (as opposed to a regional centre, country town, or rural/remote area; $\chi^2=4.16$, $p=.041$). It was not associated with partner status, GP status, education level, language spoken at home, internet access, own health status, or relative health status.

In logistic regression (N=500), younger age (OR=3.36; 95% CI=1.01-11.17; $p=.048$) and metropolitan living (OR=2.66; 95% CI=1.01-7.03; $p=.049$) emerged as independent predictors of telephone helpline use. When income was included in the logistic regression (N=366), having a mid-level income was the only significant, independent predictor of telephone helpline use (OR=7.13; 95% CI=1.58-31.96; $p=.011$).

Summary

To summarise, this data on usage of information sources suggest the following issues are relevant to an understanding of women's access to health information:

- Women who obtain information from GPs are somewhat more likely to have a regular GP, with no other demographic differences.

- Women who obtain information from family and friends are likely to be younger or mid-age, have no chronic health conditions, are partnered, have dependents, and have internet access.
- Women who obtain information from pamphlets are more likely to have internet access, are younger or mid-age, have dependent children, and have a high income (>\$80,000).
- Women who obtain health information from books appear to be of two types: on the one hand, those with internet access and high income (>\$80,000); and on the other hand, those with mid-level education (secondary or trade), and a chronic health condition.
- Women who use the internet for health information seeking are younger, have a university education, internet access, high income, and are partnered with children.
- Women who use telephone helplines are younger, live in metropolitan Melbourne, have dependent children, and a mid-level income (\$40,000 - \$79,999).
- Generally, the older age group of women are less likely to be actively accessing health information from any source.

PREFERRED SOURCE OF HEALTH INFORMATION

Participants were then asked to report their preferred source when actively seeking information about a particular health concern. Table 3 shows the preferred source of health information across the sample of women, ranked by preference. Proportions are also given separately for the three age groups.

Table 3. Preferred sources for health information: proportions for full sample and for each age group separately

Source	Total sample	Age group n (%)		
		18-34 (n=132)	35-54 (n=201)	55+ (n=167)
Doctors	379 (75.8)	88 (66.7)	146 (72.6)	145 (86.8)
Internet	26 (5.2)	7 (5.3)	18 (9.0)	1 (0.6)
Family & friends	26 (5.2)	16 (12.1)	6 (3.0)	4 (2.4)
Books ¹	19 (3.8)	4 (3.0)	11 (5.5)	4 (2.4)
Other HCPs ²	14 (2.8)	2 (1.5)	7 (3.5)	5 (3.0)
Pharmacists	12 (2.4)	7 (5.3)	3 (1.5)	2 (1.2)
Pamphlets	8 (1.6)	4 (3.0)	3 (1.5)	1 (0.6)
Telephone help lines	4 (0.8)	0 (0.0)	3 (1.5)	1 (0.6)
Television	4 (0.8)	2 (1.5)	2 (1.0)	0 (0.0)
Newspaper	2 (0.4)	1 (0.8)	0 (0.0)	1 (0.6)
Radio	2 (0.4)	0 (0.0)	2 (1.0)	0 (0.0)
Magazines	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Note. N=500. ¹including medical texts; ²health care professionals. Given the small proportion of cases in several categories, the chi-square test was not valid due expected frequencies <5 in over 60% cells.

As shown in table 3, doctors were clearly the preferred source of health information across all age groups of women. Over 75% of the full sample indicated a preference for obtaining health information via doctors, with the proportion increasing to a high 87% for women in the older age group. Together with family and friends, the internet followed as the next preferred source of health information. A relatively high 9% of mid-age women indicated that the internet was their preferred information source. Also relatively high, 12% of younger women indicated a preference for health information to be delivered informally via family and friends. All other

sources were preferred by a minority of women, at or below 5% of the sample. Not surprisingly, popular media (magazines, radio, newspaper and television) were the least preferred sources.

PASSIVE INFORMATION SOURCES

Participants were then prompted to report passive health information sources. Specifically, they were asked the question: “Sometimes people get useful information when they are not even looking for it. Have you recently received any useful health information, even though you weren’t actually looking for it, from any of the following sources?”

Table 4 shows the proportion of women indicating having obtained health information from each of the stated information sources passively or incidentally. Again sources are ranked from most to least common. Proportions are also given separately for the three age groups, with significant differences indicated in bold.

Table 4. Passive information sources: proportions for full sample and for each age group separately

Source	Total sample	Age group n (%)			χ^2	p
		18-34 (n=132)	35-54 (n=201)	55+ (n=167)		
Family & friends	295 (59.0)	91 (68.9)	131 (65.2)	73 (43.7)	24.69	<.001
Doctors	285 (57.0)	64 (48.5)	117 (58.2)	104 (62.3)	5.91	.052
Pamphlets	252 (50.4)	78 (59.1)	100 (49.8)	74 (44.3)	6.50	.039
Books ¹	230 (46.0)	64 (48.5)	95 (47.3)	71 (42.5)	ns	ns
Magazines	229 (45.8)	76 (57.6)	89 (44.3)	64 (38.3)	11.32	.003
Television	228 (45.6)	62 (47.0)	99 (49.3)	67 (40.1)	ns	ns
Newspaper	218 (43.6)	51 (38.6)	89 (44.3)	78 (46.7)	ns	ns
Pharmacists	204 (40.8)	50 (37.9)	80 (39.8)	74 (44.3)	ns	ns
Radio	173 (34.6)	37 (28.0)	70 (34.8)	66 (39.5)	ns	ns
Other HCPs ²	129 (25.8)	35 (26.5)	61 (30.3)	33 (19.8)	ns	ns
Internet	96 (19.2)	34 (25.8)	49 (24.4)	13 (7.8)	21.16	<.001
Telephone help lines	14 (2.8)	3 (2.3)	6 (3.0)	5 (3.0)	ns	ns

Note. N=500. ¹including medical texts; ²health care professionals. Statistical test=chi square test of significance. ns=no significant difference between groups. Bold indicates higher proportion(s) for each sources.

The ranking of sources for passive information access was not unlike that for active information seeking although, not surprisingly, proportions tended to be lower. The most common passive sources of information were family and friends (particularly amongst younger women), and doctors. As with active sources, the least common was telephone help lines.

While younger women were more likely than their older counterparts to obtain health information passively through magazines, there were no age-group differences in terms of the other popular media (television, newspapers, radio). Younger women were also more likely to obtain health information passively through pamphlets and, together with mid-age women, the internet. Interestingly, older women were somewhat more likely than younger women to obtain health information passively via doctors, although this difference did not reach statistical significance. This might suggest a tendency for GPs to be relatively pro-active in preventive care amongst older women, perhaps being more likely to provide unsolicited information and advice to these women.

QUALITY OF HEALTH INFORMATION

COMPARISON OF INFORMATION SOURCES IN TERMS OF QUALITY RATING

Respondents were asked to rate the quality of health information available from each of these sources. Ratings were given on a five-point likert scale. It is important to note that these questions were asked of all respondents, not only those who reported having used each information source. If necessary the interviewer explained to respondents that it did not matter if they hadn't recently used health information from a particular source, but that we were interested in their impression. The mean quality rating for each information source is shown in table 5, both for the full sample and for the three age groups separately.

Table 5. Mean (SD) quality rating for each source: for full sample and for each age group

Source	N	Total sample Mean (SD)	Age groups			F	p
			18-34 (n=132)	35-54 (n=201)	55+ (n=167)		
Doctors	497	4.44 (0.86)	4.33	4.42	4.55	ns	ns
Pharmacist	484	3.99 (1.03)	4.01	3.96	4.00	ns	ns
Books ¹	466	3.82 (1.11)	4.06 ^a	4.01 ^a	3.36 ^b	19.60	<.001
Pamphlets	471	3.65 (1.17)	3.94 ^a	3.78 ^a	3.23 ^b	15.89	<.001
Other HCPs ²	423	3.54 (1.15)	3.55	3.53	3.56	ns	ns
Internet	349	3.34 (1.20)	3.51 ^a	3.43 ^a	2.95 ^b	6.30	.002
Family & Friends	486	3.32 (1.05)	3.48	3.26	3.25	ns	ns
Telephone help lines	349	2.91 (1.39)	3.13 ^a	2.93	2.63 ^b	3.52	.031
Television	468	2.77 (1.07)	2.74	2.86	2.66	ns	ns
Newspapers	464	2.75 (1.09)	2.76	2.81	2.67	ns	ns
Magazines	459	2.75 (1.07)	2.93 ^a	2.78	2.56 ^b	4.27	.014
Radio	435	2.63 (1.09)	2.52	2.60	2.76	ns	ns

Note. N=500. In cases where women had not used a particular source for health information, they were prompted to give their impression of quality. Missing data due to respondents who responded "don't know/can't say". ¹including medical texts; ²health care professionals. Score range=1-5. Response scale=1 'very poor' 2 'poor' 3 'neither good nor poor' 4 'good' 5 'very good'. Means are rank ordered from highest to lowest for the full sample. Statistical test=Analysis of variance. ns=no significant difference between group means. SD=standard deviation. a>b in post-hoc Scheffe tests of significance, p<.05.

As shown in table 5, information provided by doctors was rated as being of the highest quality for all age groups. Information obtained via pharmacists was ranked second overall, although information obtained through books ranked higher for the younger and mid-age cohorts.

Indeed, information from books, pamphlets and the internet was rated more positively by younger and mid-age women than by older women. Likewise, younger women perceived information from telephone helplines to be of significantly higher quality than did older women.

Notably, there was relatively more missing data for ratings of the internet and telephone help lines, due to the higher proportion of women who had not obtained health information from these sources. All four popular media (radio, magazines, newspapers and television) were given the lowest quality ratings: the only group difference was for magazines which, not surprisingly, were rated more positively by younger than by older women.

It is interesting to consider the discrepancies between these quality ratings and the preferences shown earlier in table 3. In particular, the internet and family/friends rated only 6th and 7th in terms of quality, despite being the 2nd and 3rd preferred source after GPs. This suggests that factors other than quality are important in these preferences: perhaps the ease of the internet, and the informality of family and friends contribute to their relatively high preference ratings. On the other hand, pharmacists ranked 2nd in terms of quality, yet only 6th in terms of preferred source. Clearly though, the GP ranked highest in terms of both quality and preference.

RATINGS OF QUALITY OF HEALTH INFORMATION FROM ALL SOURCES

Respondents were then asked to rate the quality of health information from all sources. Responses are shown in table 6.

Table 6. Ratings of quality of health information available from all sources

Rating of quality	n (%)
Very poor	7 (1.4)
Poor	19 (3.8)
Neither good nor poor	118 (23.7)
Good	212 (42.6)
Very good	142 (28.5)

Note. N=498. An additional two women responded "don't know/can't say".

As shown in table 6, the majority of women (71.1%) rated the overall quality of health information as either 'good' or 'very good'. Only a relatively small 5.2% rated health information from all sources as being either 'poor' or 'very poor'.

PREDICTING POOR QUALITY RATING OVERALL

In order to identify predictors of ratings of poor quality information, a logistic regression was performed. The dependent variable was a rating of either 'poor' or 'very poor' quality. All demographic variables were treated as potential predictors and were entered into the analysis, except income, due to the large proportion of missing data on this variable. Chi-square analysis demonstrated that poor quality rating was not significantly associated with income level ($\chi^2=2.51$, $p=.285$). Table 7 sets out the results of the logistic regression analysis.

Table 7. Results of logistic regression predicting rating of 'poor' or 'very poor' quality of information from all sources.

Variable	Odds ratio	Lower 95% CI	Upper 95% CI	p
English not main language	4.13	1.02	16.65	.047
No regular GP	3.05	1.01	9.33	.048

Note. N=500. Variables entered: age group, partner status, dependent status, region, education level, language spoken at home, internet access, regular GP, health condition (self or other).

As shown in table 7, the significant predictors of a poor quality rating were having a main language other than English, and not having a regular GP. Both factors increased the odds of a poor quality rating (four-fold increase for main language other than English; three-fold increase for no regular GP). No other demographic variables were significantly associated with quality rating in either the predictive (logistic regression) or bivariate (chi-square) analyses.

That these two variables emerged as significant predictors of poor quality ratings is not surprising. Women without a regular GP perhaps receive conflicting information from more than one healthcare provider, and perhaps have less continuity of care than those who have a regular GP. Women with a main language other than English perhaps find a lack of relevant language-specific information. Having a language other than English is associated with being younger ($p=.014$), living in the metropolitan area ($p<.001$) and having dependent children ($p=.003$). Likewise, having no GP is also associated with being younger ($p=.02$). Thus, these women tend to be younger city-dwelling mothers: perhaps these factors further isolate these women and preclude access to good quality information.

DIFFICULTY ACCESSING HEALTH INFORMATION

RATINGS OF EASE OR DIFFICULTY ACCESSING HEALTH INFORMATION

Respondents were asked to indicate how easy or difficult they found it to get health information when they were actively seeking information they needed. Responses are shown in table 8.

Table 8. Ratings of ease/difficulty in accessing health information

Rating of ease/difficulty	n (%)
Very difficult	20 (4.0)
Difficult	27 (5.4)
Neither easy nor difficult	101 (20.4)
Easy	168 (33.9)
Very easy	180 (36.3)

Note. N=496. An additional four women responded "don't know/can't say".

As shown in table 8, the majority of women (70.2%) indicated that they found it 'easy' or 'very easy' get the health information they needed. A relatively small proportion (9.4%) of women indicated that they found it either 'difficult' or 'very difficult' to get the information they needed.

PREDICTING DIFFICULTY ACCESSING INFORMATION

In order to identify the predictors of difficulty accessing health information, a logistic regression analysis was performed. The dependent variable was a rating of either 'difficult' or 'very difficult'. Again all demographic variables were treated as potential predictors and were entered into the analysis (except income, due to the large proportion of missing data on this variable). Chi-square analysis demonstrated that difficulty was not significantly associated with income ($\chi^2=1.54$, $p=.463$). Table 9 sets out the results of the logistic regression analysis.

Table 9. Results of logistic regression predicting difficulty accessing health information

Variable	Odds ratio	Lower 95% CI	Upper 95% CI	p
No dependent children	2.16	1.04	4.50	.039

Note. N=500. Variables entered: age group, partner status, dependent status, region, education level, language spoken at home, internet access, regular GP, health condition (self or other).

As shown in table 9, the only significant predictor of difficulty accessing health information was having no dependent children. Women without dependent children were over twice as likely to indicate difficulty in accessing health information. No other demographic variables were significant in the predictive (logistic regression) analysis. In bivariate (chi-square) analysis, difficulty accessing information was significantly associated with having a long-term health problem ($\chi^2(1)=3.99$, $p=.046$). However, this variable did not retain significance in the logistic regression analysis.

Who are the women with no dependent children?

Having no dependent children was associated with a number of other demographic variables: these associations provide a profile of women without dependents. In particular, having no dependents was associated with being older ($p<.001$), being unpartnered ($p<.001$), having no internet access ($p<.001$), having low income ($p<.001$), and having a long-term health problem ($p<.001$). Although none of these variables independently predicts difficulty accessing information, together this profile helps to identify "women without dependents" and helps to clarify why they might have difficulty accessing health information. They are clearly older, less in touch with electronic media, and perhaps more physically frail: all these factors might contribute to difficulties accessing information.

On the other hand, having dependent children possibly helps to link women into healthcare providers and organisations: women with young children are likely to have links with maternal health centres, childcare centres, schools and the like, while those with older children are likely to have links with the internet and various community-based organisations. Moreover, both groups of mothers are likely to seek health information on behalf of their children and have perhaps become experienced health information seekers.

CONCERNS ABOUT ACCESSING QUALITY INFORMATION

Women were asked if they had any concerns in relation to obtaining high quality health information. In total, 114 (22.8%) women indicated that they did have some concerns. First responses were recorded verbatim and coded into appropriate categories, with the most commonly reported main concerns (unprompted) shown in table 10.

Table 10. Main concerns in relation to obtaining high quality health information

Main concern	n (% of those with concerns)	% of total sample
Issues related to general practitioner (GP)	21 (18.4)	4.2
Consistency, currency and reliability issues	42 (36.8)	8.4
Issues about accessing specific information	22 (19.3)	4.4
Rural issues	9 (7.9)	1.8
Access & Availability issues	14 (12.3)	2.8
Other issues	6 (5.3)	1.2

Note. N=500. Main concern recorded for the 114 women who indicated having a concern.

As shown in Table 10, the most common concerns mentioned were related to the quality issues of consistency, currency and reliability. Verbatim responses indicated that these concerns included being given different and sometimes conflicting information from different sources, concerns about the authenticity of information from different sources and complaints about being given out-of-date information.

Those who mentioned issues about accessing specific information included some who wanted more detailed information relevant to a specific condition. This group included nine people who mentioned that they had concerns about accessing information specifically related to women's health and reproductive health issues.

Issues related to doctors included being given insufficient details in explanation of a condition or its treatment, insufficient time spent with the GP to be given a full explanation and concerns about the manner of the interactions that women had with doctors.

Issues related to access and availability included not knowing where to go to find information and requests for assistance in obtaining the relevant information.

There were some group differences for some of these concerns.

Those reporting concerns about access and availability tended to have higher education ($\chi^2=5.36$, $p=.068$), higher income ($\chi^2=6.17$, $p=.046$), and no regular GP ($\chi^2=4.66$, $p=.031$). Specifically, 19% of those with a university education expressed concerns about access and availability, whereas none of those with primary or lower secondary education expressed these concerns. Consistently, 26% of women with incomes over \$80,000 expressed concerns about access, compared with only 6% of those with incomes <\$40,000. Finally, a high 31% of those with no regular GP expressed access concerns, compared with only 10% of those with a regular GP.

Women reporting concerns about rural issues were, not surprisingly, from non-metropolitan areas ($\chi^2=12.98$, $p<.001$). Specifically, 29% of those living in country towns and a higher 36% of those living in rural or remote areas expressed concerns related to remoteness and the limitations of rural living. These concerns were also associated with income level ($\chi^2=17.84$, $p<.001$). Indeed, all nine women who expressed concerns about rural issues had incomes below \$40,000. In addition, six of the nine had no internet access ($\chi^2=6.34$, $p=.012$), presumably exacerbating their isolation.

Importantly, concerns about quality (consistency, currency and reliability), concerns about access to specific information and concerns relating to the GP were not associated with any particular demographic profile (chi-square not significant in all associations). This finding suggests that these concerns were shared amongst women of varying living situations, backgrounds, education levels and incomes. In other words, these kinds of concerns were equally common across the various demographic groups.

PREDICTING CONCERNS ABOUT ACCESSING HIGH QUALITY HEALTH INFORMATION

In order to identify predictors of having any concerns about obtaining high quality information, a logistic regression was performed. Note that this analysis was related to having any of the concerns mentioned, not to each of the specific concerns. Again all demographic variables were treated as potential predictors and were entered into the analysis except income, due to the large proportion of missing data on this variable. Chi-square analysis demonstrated that having a concern was not significantly associated with income ($\chi^2=4.61$, $p=.099$): there was a non-significant trend for women on higher income to be more likely to have a concern. Table 11 sets out the results of the logistic regression analysis.

Table 11. Results of logistic regression predicting having a concern about accessing high quality health information.

Variable	Odds ratio	Lower 95% CI	Upper 95% CI	p
Education level				
Primary/lower secondary	1.00			<.001
Upper secondary/TAFE/trade	2.93	1.75	4.90	<.001
Undergraduate or postgraduate degree	3.80	1.99	7.28	<.001
Has longterm health condition	2.98	1.60	5.53	.001
Family member has longterm health condition	1.90	1.06	3.38	.030

Note. N=500. Variables entered: age group, partner status, dependent status, region, education level, language spoken at home, internet access, regular GP, self health condition, relative health condition.

As shown in table 11, the significant predictors of concerns about obtaining high quality health information were education levels, having a long-term health problem, and having a relative with a long-term health problem. Higher education increased the odds of having concerns: women who had completed secondary education or undertaken either TAFE or a trade qualification were almost three times as likely as those with lower education to have concerns; women with an undergraduate or postgraduate degree were almost four times as likely to have concerns. Having a health condition increased the likelihood of concerns threefold, while having a relative with a health condition resulted in a twofold increase in likelihood of concerns.

On looking at the factors associated with these significant predictors, it becomes apparent that there are two distinct groups of women with concerns about obtaining high quality health information. Women with a university degree were more likely to be mid-age ($p < .001$), partnered ($p = .029$), with dependent children ($p = .054$), living in the metropolitan area ($p < .001$), with internet access ($p < .001$), and high income ($p < .001$), and were less likely to have a long-term health condition ($p = .039$). In contrast, women with a long term health problem were more likely older ($p = .037$), unpartnered ($p = .039$), with no dependent children ($p = .001$), low education level ($p = .023$), and no internet access ($p = .008$). To a lesser extent, those with a relative with a health condition were also older ($p = .042$).

Thus on the one hand are the well-educated mid-age women, with partner, children and internet access, who most likely have high expectations for the quality of information they require. On the other hand are the older, unwell, single, separated or widowed women, less well-educated and not linked to the internet, who most likely have specific condition-related needs and who are perhaps relatively out-of-touch with current information sources.

DISCUSSION

The present study has provided an up-to-date snapshot of Victorian women's use of health information in terms of the sources used to gather health information, perceptions of these sources and concerns associated with accessing health information. Some pertinent observations about the health information sources used and the groups of people who use different sources are included below.

GPs AS INFORMATION SOURCES

Clearly GPs play a critical role in the provision of health information to Victorian women, having been a source for active information seeking for almost all of the sample, a source of passive information for more than half of the sample and the preferred source of health information for three-quarters of those surveyed. These findings support US population studies reported in the literature review that also found GPs to be the most sought after active source of health information (Pandey et al. 2002).

Fortunately then, GPs were consistently rated as being the source of the highest quality of health information. Again this is consistent with US population survey findings (Pennbridge et al. 1999). Further, those who did not have a regular GP were much more likely to give a poor rating to the overall quality of health information, suggesting that having a regular GP was an important factor in ensuring women obtained information of sufficient quality.

However, GPs were not without their problems, with several women reporting that the breadth of information available from their GPs did not meet their needs, with examples given in relation to sexual and women's health issues and in the context of providing information about complementary therapies. Previous studies of both US and Australian women have similarly found lack of satisfaction with the amount and type of health information received from GPs (Wyn & Solis 2001; Brown & Doran 1996). In the present study, some women also noted that they did not know where else to go to for information, other than their GPs, indicating that GPs might not be relied on as much for information if people felt they had other choices.

FAMILY & FRIENDS AS INFORMATION SOURCES

Family and friends also played an important role in the provision of health information, being rated as the second most common source of active information gathering and the most common source of passive information gathering. This was especially the case for the younger age group of women. This result supports the findings documented in the review of the literature that young women in particular obtain a large proportion of their health information from informal networks (Sorger 1990, cited in Astbury and White 1998). While the present study did not look at what kinds of health information were obtained from what sources, the Sorger study suggested that informal networks were especially important to young women in relation to sensitive issues, such as sexuality and sexual health.

Interestingly, though not surprisingly, family and friends rated only seventh in terms of quality, despite being such a common source of information, rating as higher quality than only telephone helplines and the popular media. This suggests that factors other than quality are important in these preferences, with perhaps the informality of family and friends and ease of access contributing to their relatively high preference ratings.

THE INTERNET AS AN INFORMATION SOURCE

Questions around use of the internet as a source of health information had risen during the previous review of the literature, and were a specific focus of interest in this study. In the current sample, 63% of women had internet access at either home or work. While not directly comparable, this is somewhat higher than the 50% of Australian adults who had accessed the internet in the previous twelve months (ABS 2000) and also higher than the 46% internet access reported in a study of South Australians (Bessell et al. 2002).

The findings of the present study, that one-third of the sample had used the internet to access health information, is a substantial increase on the 21% reported in the Australian study by Bessell et al. (2002). Indeed, this rate is almost identical to the USA population prevalence of 32% reported by Licciardone et al. (2001) and higher than the USA prevalence amongst women of 25% reported by Pandey et al. (2002). This suggests that the Australian internet usage rate for health information seeking has now reached US rates. Notably, almost all (96%) of those who had the internet had used it to access health information.

The present study supports the observations reported in the previous literature review that the internet seems to be in the process of surpassing other forms of active health information seeking. Notably, the internet was used by a far greater proportion than telephone help lines (32% cf 7% respectively). As documented in the literature review, several women's health services currently operating in Australia have shown decreasing use of telephone help lines together with increasing website activity (WHV 2001; WIRE 2000; 2001), similarly supporting substitution by the internet.

That the internet was rated as the second most preferred source of health information (equal to family and friends) behind doctors, is an important finding. While the numbers who preferred the internet were small (5%), given that three-quarters of the sample rated GP as most preferred, this is not surprising. What is of interests is that the internet was preferred more than books, other health care practitioners, pharmacists, pamphlets, telephone help lines and the popular media. Given the relative youth of the internet, these findings clearly indicate its importance as a developing medium to consumers of health information.

The results demonstrated that those who currently use the internet for health information tend to be younger, university educated, have a higher income and have dependent children. These demographic characteristics are consistent with those reported for the Australian population in the literature review, and suggest that some groups of women experience barriers to using the internet. Given the high value placed on this medium by those who do use it, the fact that those others experience access barriers is of concern.

However, other groups of women do not appear to be disadvantaged in terms of internet access. Consistent with the SA study by Bessell et al (2002), use of the internet to access health information was not associated with geographic location, providing further evidence that women in non-urban and even isolated rural areas are not necessarily disadvantaged in terms of internet access. Neither was internet use associated with language spoken at home or current health status. This is encouraging, particularly in suggesting that women from non-English speaking backgrounds have equitable internet access. According to the Department of Human Services in Adelaide, the internet offers a relatively easy source of health information in a range of languages, which is particularly relevant for women who have a first language other than English (Swanson 1999).

Perceptions of quality of the information available from the internet varied with age, with younger people rating it higher. As previously noted, the internet ranked lower on quality

compared with other sources of health information (sixth) than it did in terms of preferred usage. This finding suggests that, while women may have some concerns about the quality of the information available, the other benefits of the internet, such as its accessibility, the capacity to find specifically relevant details and the privacy afforded in the search process, outweigh these concerns. Indeed, previous studies have demonstrated that information-tailoring and anonymity (Cline & Haynes 2001), as well as convenience (Metcalf et al. 2001; Fox & Rainie 2000), are key advantages of internet usage.

Notwithstanding, the internet was ranked as being of higher quality than other sources except health care professionals (including doctors, pharmacists and others), books and pamphlets. That is, it was considered to be a source of higher quality information than family and friends, telephone help lines or the mass media. Again these results suggest that the internet is an important emerging health information source and that it may be surpassing some more traditional resources, such as the telephone.

TELEPHONE HELP LINES AS A SOURCE OF HEALTH INFORMATION

Consistent with findings reported in the review of literature, telephone help lines were only used by a small proportion (7%) of this sample of women when they were actively seeking health information. Further, this was the preferred source of health information for less than 1% of the sample. Similarly low use of telephone help lines has been reported in overseas studies of clinical samples: 10% in a Swedish study of oncology patients (Carlsson 2000) and 2% in a UK study of neurology patients (Larner 2002).

Those women who used telephone help lines tended to be younger, have dependent children, mid level incomes and live in metropolitan Melbourne.

In terms of quality, telephone help lines were rated as being better than only the mass media for health information. However, this result needs to be considered in the light of the small proportion of the sample who had actually used this source.

While these results raise a question with regards to the value of telephone help lines in the provision of health information, the previous literature review highlighted that this value was largely in relation to the role that this medium plays for women in crisis situations, such as those living with domestic violence (WIRE 2001, Women's Health Grampians 2001). These situations were not taken into account in the present study.

PAMPHLETS AS A SOURCE OF HEALTH INFORMATION

Pamphlets were a common source of health information in terms of both active (69%) and passive (50%) information seeking. However they were the preferred source of health information by less than 2% of this sample of women. These rates provide important new information, with none of the Australian, UK or US population surveys covered in the literature review having documented the use of printed information sources such as pamphlets, brochures or newsletters.

Those who used pamphlets tended to be from the younger or mid-age group, have dependent children and high income. Interestingly, the only independent predictor of use of pamphlets as an active source of health information was internet access. This latter finding perhaps suggests that pamphlets as a source of health information are targeted more at the highly literate, well-educated, text-oriented people who are also more likely to use the internet.

This result is perhaps not surprising in the light of the findings, reported in the previous literature review, which noted that comprehension and readability were barriers to the use of written health information. Studies, such as those of American (Eysenbach & Jaddad 2001) and Netherlands (Murero et al. 2001) populations, have shown that written health information for pamphlets and the internet is commonly pitched at a higher reading level than was appropriate for the general public. Hence it is likely that those who find the language level of the internet appropriate are likely to find pamphlets similarly appropriate.

Pamphlets were given the fourth highest rating of quality, behind doctors, pharmacists and books suggesting that they are considered to provide credible and valuable information.

RURAL WOMEN

The findings of this survey provide some pertinent observations about the accessibility and use of health information for specific groups of women. In particular, the results highlight the issues of access to quality health information faced by certain groups of women.

Notably, and perhaps somewhat surprisingly, few differences were observed in the responses of rural and metropolitan women. Other than telephone help lines, which were more likely to be used by metropolitan women, rural women did not report lower usage of any of the other information sources evaluated in this survey. Nor were they more likely than metropolitan women to report problems regarding quality or access in relation to any source. The only other geographic location related factor was that those whose main language was other than English were more likely to be from metropolitan areas and were also more likely to rate the overall quality of health information as being poor. As noted earlier, the SA study by Bessell et al. (2001) similarly demonstrated that geographic location had no impact on internet access and use, similarly suggesting that those living in remote areas can adequately access needed health information online.

In response to an unprompted question about any particular concerns that respondents had about accessing high quality health information, eleven women mentioned that the isolation of living in rural areas was a problem, indicating that this is a top-of-mind concern for a proportion of rural women. In-depth qualitative studies focussing specifically on the needs of rural women have identified a range of barriers faced by rural women in accessing good quality health information, most notably in relation to transport difficulties, access to services, and lack of currency of the information available (Astbury & White 1998; NHIMAC 2001). It is likely that these factors were relevant amongst this proportion of rural women who expressed concerns about accessing quality health information.

AGE GROUP DIFFERENCES

In general, women from the older age group were less likely to be actively accessing health information from many of these information sources. These differences were especially noticeable for family and friends, pamphlets, books, pharmacists, other health care professionals, magazines, television, the internet and telephone help lines. Further, older women tended to be less likely to passively access health information from many of these sources. The exception was that older women were more likely to receive information passively from doctors, possibly indicating that GPs are relatively pro-active in promoting preventive care information to older women. Importantly, that older women are more likely than others to consult with their GP, and to have multiple visits in any one year (ABS 1995), also accounts for their relatively high reliance on GPs for health information.

In relation to perceptions of quality, older women tended to rate the quality of health information they received as being lower. One notable exception to this was a trend for older women to give a higher rating of the quality of the information they received from doctors, again emphasising their reliance on doctors for their information.

ISSUES OF CONCERN IN ACCESSING HEALTH INFORMATION

The survey highlighted a number of issues that need to be taken into consideration when understanding women's current behaviour and attitudes in relation to accessing health information.

Overall, the surveyed suggested that women rated the quality of health information that is available quite highly, with only a small number (5%) rating the overall quality as poor. However, a further one-quarter of the sample gave it a neutral rating, indicating that while they might not rate the quality as poor, they are not currently satisfied with the health information they obtain.

Not surprisingly, the significant predictors of a poor quality rating were having a main language other than English, and not having a regular GP. Women without a regular GP perhaps receive conflicting information from more than one healthcare provider, and perhaps have less continuity of care than those who have a regular GP. They also tended to be younger.

Women with a main language other than English perhaps find a lack of relevant language-specific information, a factor that was mentioned by a small number of participants when they were asked if they had any particular concerns about accessing health information. Consistent with this, previous studies of Australian women have shown that those from non-English speaking backgrounds are less likely to receive appropriate, up-to-date and accurate health information (McVeigh 1996; Schofield et al. 1998). In the present study, having a language other than English was also associated with being younger, living in the metropolitan areas and having dependent children. Thus, women who give poor ratings to the quality of health information tend to be younger urban-dwelling mothers: perhaps these factors further isolate these women and preclude access to good quality information.

While quality is one area of concern, accessibility is another issue where a different group of women experience difficulties. Overall, approximately 9% of the women surveyed reported experiencing difficulty accessing health information. This experience was more common amongst those with no dependent children, who tended to be older, not partnered, less in touch with electronic media, have lower incomes and have long-term health problems: factors that might conceivably contribute to difficulties accessing information. Indeed, previous studies have demonstrated that information access is particularly problematic for older women (Bessell et al. 2002; Pandey et al. 2002; Licciardone et al. 2001) and those with lower income and/or education levels (Domm et al. 2000).

On the other hand, having dependent children possibly helps to link women into healthcare providers and organisations: women with young children are likely to have links with maternal health centres, childcare centres, schools and the like, while those with older children are likely to have links with the internet and various community-based organisations. Moreover, both groups of mothers are likely to seek health information on behalf of their children and have perhaps become experienced health information seekers.

Of those who reported having specific concerns about accessing health information there were two distinct groups of people: on the one hand were the well-educated mid-age women, with partner, children and internet access, who most likely have high expectations for the quality of

information they require. On the other hand were the older, unwell, single, separated or widowed women, less well-educated and not linked to the internet, who most likely have specific condition-related needs and who are perhaps relatively out-of-touch with current information sources.

The unprompted concerns that were mentioned highlighted some particular issues that are of concern across all groups of women. Notably, concerns about quality (consistency, currency and reliability) of information, concerns about access to specific information and concerns relating to doctors were equally common across the various demographic groups.

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APPENDIX: QUESTIONNAIRE

Good morning/afternoon/evening. My name is (...) calling on behalf of Women's Health Victoria from the Social Research Centre. We're conducting a survey amongst Victorian women to find out about their health information needs so Women's Health Victoria can better provide for these needs. May I speak to the youngest female aged 18 years or over at home at the moment please?

RE-INTRODUCE, AS REQUIRED - WHEN TALKING TO RESPONDENT SAY:

Women's Health Victoria is interested in finding out more about how people use health information. If you would like to take part in this survey, your comments will be completely confidential and will only be used for the purposes of this research project.

We need less than 10 minutes of your time and if there are any questions you do not wish to answer you can simply refuse.

IF NECESSARY: Women's Health Victoria (WHM) is a state wide women's health information service that provides information to women, via a telephone help line and library, to assist people in making informed decisions about their health care. It is a not for profit independent service run by women for women.

Is now a convenient time?

1. Yes, available now (CONTINUE)
2. No, unavailable (ARRANGE CALLBACK)
3. No, Refused (TERMINATE)

Q.1 In this survey, we are interested in finding out about the ways people obtain health information. By health information I mean any information that assists you in understanding, making decisions about or treating health matters relevant to you or those important to you. (REPEAT IF NECESSARY) (ROTATE ORDER)

When there has been a particular health issue of concern to you that you wanted information about, which of the following sources have you used to get this information? (READ OUT) ...

1. Telephone Help Lines
2. Books, including medical texts
3. Pamphlets
4. The Internet
5. Friends & Family
6. Doctors
7. Chemists / Pharmacists
8. Other health care providers
9. Television
10. Magazines
11. Newspapers
12. Radio
13. Other (please specify)

Q.2 Ideally, when there is a particular health issue of concern to you that you want information about, what would be your preferred way of getting this information? (SINGLE RESPONSE ONLY) (DO NOT PROMPT)

1. Telephone Help Lines
2. Books, including medical texts
3. Pamphlets

4. The Internet
5. Friends & Family
6. Doctors
7. Chemists / Pharmacists
8. Other health care providers
9. Television
10. Magazines
11. Newspapers
12. Radio
13. Other (please specify)

Q.3 Sometimes people get useful information when they aren't even looking for it. Have you recently received any useful health information, even though you weren't actually looking for it, from any of the following sources (ROTATE ORDER) (READ OUT) ...

1. Telephone Help Lines
2. Books
3. Pamphlets
4. The Internet
5. Friends & Family
6. Doctors
7. Chemists / Pharmacists
8. Other health care providers
9. Television
10. Magazines
11. Newspapers
12. Radio
13. Other (please specify)

Q.4 I'm now going to read out a list of a dozen potential health information sources. For each item I read out could you please rate the quality of the health information available from that source. Please use a scale from 1 to 5, where 1 is very poor quality, 3 is neither good nor poor and 5 is very good quality. It doesn't matter if you haven't recently used health information from a particular source – I just want your impression.

How do you rate the quality of the health information available from ...(ROTATE ORDER) (READ OUT)

1. Telephone Help Lines
2. Books, including medical texts
3. Pamphlets
4. The Internet
5. Friends & Family
6. Doctors
7. Chemists / Pharmacists
8. Other health care providers
9. Television
10. Magazines
11. Newspapers
12. Radio

Q.5 Still thinking about when you have a health issue that you want information about, how easy or difficult is it to get the information you need using a scale from 1 to 5 where 1 is very difficult, 3 if neither easy nor difficult and 5 is very easy?

Q.6 And generally speaking, how would you rate the quality of the health information available to you from all sources where 1 is very poor quality, 3 is neither good nor poor and 5 is very good quality?

Q.7 Do you have any particular concerns in relation to obtaining high quality health information?

1. Yes (CONTINUE)
2. No (GO TO DEMOGRAPHICS)

Q.8 What is your main concern? (SINGLE RESPONSE ONLY, RECORD VERBATIM)

Q8a Any others?

1. Yes (SPECIFY)
2. No

DEMOGRAPHICS

I would like to ask you a few final questions about yourself. Once again, these questions are for the purposes of the research only. They are to help us understand people's answers overall and will not be used to identify you individually.

D1 Would you mind telling me your (approximate) age please?

1. 18-24
2. 25-34
3. 35-44
4. 45-54
5. 55-64
6. 65-74
7. 75+
8. REFUSED

D2 Which of these groups best describes your household? (READ OUT)

1. Young single household (includes solo and group households)
2. Partnered, no children
3. Partnered, with children living at home
4. Single parent with children living at home
5. Partnered, children left home
6. Older single, separated or widowed with no children at home
7. CAN'T SAY (DON'T READ)

D3 Would you describe where you live as being ...(READ OUT) (SINGLE RESPONSE ONLY)

1. Part of Melbourne
2. A regional centre
3. A country town, or
4. A rural or remote area
5. (Don't Know / Can't Say)

D3a What is the postcode where you live? (RECORD) _ _ _ _

D4 Which of the following best describes the highest level of education you have achieved? (READ OUT)

1. Primary
2. Some secondary

3. Completed Secondary
4. Trade, TAFE or technical qualifications
5. Bachelor's Degree
6. Post graduate
7. CAN'T SAY (DON'T READ)

D5a Is English the main language spoken in you home?

1. Yes (GO TO D5c)
2. No

D5b What is the main language spoken in your home?

1. Italian
2. Greek
3. Arabic / Lebanese
4. Cantonese
5. Vietnamese
6. Other (please specify)

NOW GO TO D6

D5c Are any other languages spoken regularly in your home?

1. Yes
2. No (GO TO D6)

D5d Specify language

1. Italian
2. Greek
3. Arabic / Lebanese
4. Cantonese
5. Vietnamese
6. Other (please specify)

D6 Do you have internet access at home or work?

1. Yes
2. No

D8 Do you have a regular GP?

1. Yes
2. No

D9 Do you or any members of your immediate family have a long term health condition, impairment or disability that restricts participation in everyday activities that has lasted or is likely to last for more than 6 months? (ACCEPT MULTIPLES, CODES 1 AND 2)

1. Yes, myself
2. Yes, other family member
3. No
4. Don't Know / Can't Say
3. Refused

D10 And finally, what is your household's TOTAL approximate annual income from all sources, before tax?

1. LESS THAN \$20,000
2. \$20,000 - \$39,999
3. \$40,000 - \$59,000

4. \$60,000 - \$79,999
5. \$80,000 - \$99,999
6. \$100,000 - \$149,999
7. \$150,000 OR More
8. CAN'T SAY
9. REFUSED

END That was my last question. Thank you for participating in this survey. Just in case you missed it, my name is (...) from the Social Research Centre. This interview was conducted on behalf of Women's Health Victoria.