Social-Emotional Support, Life Satisfaction, and Mental Health on Reproductive Age Women's Health Utilization, US, 2009

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Abstract

To examine the associations among social-emotional support, life satisfaction, and mental health with not having a routine checkup among women of reproductive age in the US, data from the 2009 Behavioral Risk Factor Surveillance System, a population-based telephone survey of health behaviors, were analyzed among reproductive aged (18–44 years) women in the US. Prevalence estimates were calculated for not having a routine checkup in the past year with measures of social-emotional support, life satisfaction, and mental distress. Independent multivariable logistic regressions for each measure assessed not having a routine checkup within the past year with adjustment for age, race/ethnicity, education level, and health care coverage. Among women of reproductive age, 33.7 % (95 % CI 33.0–34.4) did not have a routine checkup within the past year. Factors associated with not having a routine checkup included: having social-emotional support most of the time (AOR = 1.29, 95 % CI 1.20–1.38) or sometimes or less (AOR = 1.47, 95 % CI 1.34–1.61) compared to those who reported always having the social-emotional support they need; reporting life satisfaction as being satisfied (AOR = 1.27, 95 % CI 1.19–1.36) or dissatisfied (AOR = 1.65, 95 % CI 1.43–1.91) compared to being very satisfied; and frequent mental distress (AOR = 1.19, 95 % CI 1.09–1.30) compared to those without. Women who report lower levels of social-emotional support, less life satisfaction, and frequent mental distress are less likely to see a doctor for a routine checkup. Targeted outreach that provides appropriate support are needed so these women can access clinical services to increase exposure to preventive health opportunities and improve overall health.

Introduction

Health is complex and defined by the World Health Organization (WHO) as not just the absence of disease but a state of complete physical, mental, and social well-being [1]. Access to appropriate health services including preventive health or routine visits is an important heath determinant. It may be helpful to characterize the WHO components of mental and social well-being by looking at associations between health care utilization and potentially modifiable measures of social-emotional support, life satisfaction, and mental health.

Social support includes positive relationships, encouragement, and emotional support that is often provided by a network of family, friends, colleagues, and others [2]. Social support is closely tied to effective coping [3] and has health-protective properties [4, 5]. Social support has been associated with reduced morbidity and mortality [6] and been found to aid successful aging [7]. Social support may contribute to these effects through many mechanisms including promoting better adherence to diet [8] and physical activity recommendations [9–11], as well as utilization of medical treatments and screenings [12, 13].

Life satisfaction, a subjective self-evaluation of an individual's overall contentment with life and well-being [14–16], is a Healthy People 2020 marker of quality of life [17]. Associations have been documented between dissatisfaction with life and increased risk for all-cause morbidity, chronic conditions, injury, and mortality. Life satisfaction is associated with positive health behaviors, higher levels of self-reported health, decreasing prevalence of obesity, as well as smoking, heavy drinking, and physical inactivity [18, 19].

Mental distress can be intermittent or chronic and refers to a wide range of experiences, including stress, depression, and emotional problems. Frequent mental distress (mental health problems experienced on 14 or more of the past 30 days) has been found to be associated with unhealthy and high-risk behaviors such as smoking, alcohol and drug use [20–22, 26, 27]. Mental distress is also associated with medical conditions such as heart disease, asthma, and arthritis, as well as health outcomes such as mortality and hospitalizations. [23–25].

Routine checkups, during which clinical services are performed for a person who may not have any signs or symptoms of an illness [28], are an important aspect of preventive health care. The routine checkup also provides an opportunity for primary caregivers to offer personalized behavioral counseling to patients [29], provide recommended screenings [30, 31] and promote healthy behaviors. Those who regularly see doctors for health examinations develop a trusting relationship with physicians, and are more likely to receive preventive screening than those who only see doctors for treatment episodically [32]. The routine

checkup is a cost-effective means of reducing morbidity and mortality caused by chronic diseases [30], since much of the morbidity and mortality related to chronic disease in the US is attributable to modifiable health behaviors [25, 31, 33] that could be addressed during a routine checkup. Routine periodic health exams provide opportunities for promoting healthy behaviors and chronic disease prevention.

Previous research on the effects of social, emotional, and mental health on the utilization of health services such as a routine checkup has not yet yielded a clear picture of these relationships. One previous study found that social support was positively associated with service use and annual physical examination use in older adults [34], which may suggest that social networks aid users in gaining access to care [32]. Contrastingly, other studies have found that lower social support was associated with higher health services utilization in a general population of adults [32, 35]. Variability in the conceptualization and categorization of social support [36] and the utilization of health services may have led to these mixed findings. Little research has examined the association between life satisfaction and health behaviors [19, 37]; with most existing studies conducted in the 1970s [19, 38–40]. An association has been shown to exist between increased distress and reduced utilization of health services [35]. In a study of older adults, frequent mental distress was shown to decrease the likelihood of practicing positive health behaviors and utilizing preventative health care services [31].

Overall, women are about twice as likely to receive a regular medical examination than men [28, 32]. However a recent study using BRFSS data demonstrated that women aged 25–44 were significantly less likely than women older than 44 to have had a recent checkup [28]. In addition to benefits provided to the women themselves, counseling on medical and behavioral risks provided during a routine checkup can improve pregnancy outcomes through the provision of anticipatory guidance [41]. Furthermore, women are more likely to experience life dissatisfaction [19] and frequent mental distress [31] than men, and these factors may have stronger associations with health services utilization for women. For example, in a study of Canada's general population from 1994–1995, social structural and psychosocial determinants of health including social support was shown to generally have a stronger effect in women whereas behavioral determinants were generally more important in men [42]. No comparable examination of social and mental health on the utilization of health services for the US population could be found.

The main objective of this study was to examine the associations between social-emotional support, life satisfaction, and mental health with not having a routine checkup among women of reproductive age (18–44 years) in the US. Identifying relationships among these psychosocial measures among women, variation across sub-populations, and how they relate to receipt of routine checkups may contribute to focused strategies to increase access to clinical services and improve overall health outcomes.

Methods

Data Source

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based cross-sectional telephone survey of adults 18 years of age and older conducted each year by state health departments in collaboration with the Centers for Disease Control and Prevention. The BRFSS uses a standardized questionnaire to determine the distribution of demographic variables, health practices, risk behaviors, and health care access among the non-institutionalized adult population in the US. The Council of American Survey Research Organization (CASRO) response rate reflects both telephone sampling efficiency and the degree of participation among eligible respondents who were contacted. In 2009, the BRFSS median CASRO rate was 53 % and ranged from 38 to 67 % among states. The cooperation rate reflects the proportion that completed an interview among eligible persons contacted. The median cooperation rate for BRFSS in 2009 was 75 % and ranged from 55 to 88 % among states. Detailed information on the sampling methodology, survey weighting procedures, quality assurance of the survey, and other aspects of this survey is available online at http://www.cdc.gov/brfss/index.htm. Relative to other surveys, data from BRFSS have acceptable reliability and validity [43].

Study Participants

In 2009, a total of 67,730 women of reproductive age (18–44 years) completed the BRFSS. Women who responded "don't know/not sure", who refused to respond, or who were missing data for the question on time since last routine doctor visit (n = 776) were excluded from analysis. The final analysis sample included 66,954 women.

Dependent Variable

Having a routine checkup in the previous year was the primary outcome and was grouped into a dichotomous variable: had a checkup in the past year or no checkup in the past year from the available response options (Table 1).

Independent Variables

In this study, there were three primary independent variables: social-emotional support, life satisfaction, and mental distress derived from the available response options for each question (Table 1, Fig. 1). Social-emotional support was grouped into three categories: Always, Most of the Time, and Sometimes or Less. Life satisfaction was also grouped into three categories: Very Satisfied, Satisfied, and Dissatisfied. Frequent mental distress was grouped into a dichotomous variable: of No for less than 14 days versus Yes for 14 or more days of mental distress in the past 30 days. This dichotomization is consistent with literature examining frequent mental distress in BRFSS analyses [31]. For each independent variable, respondents who refused to answer, did not know the answer to a question, or had a missing response were excluded from analysis of the specific question. Missing responses for each variable ranged from 1 to 7 %. These three variables were highly correlated with each other and were analyzed separately in order to avoid the impact on the variance of parameter estimates that might result from collinearity.

Covariates

Age was categorized into six groups: 18–24, 25–29, 30–34, 35–39, and 40–44. Self-identified race/ethnicity included non-Hispanic white, non-Hispanic black, Hispanic (any race), Asian, Native American, or all others. For this report, the terms white and black refer to non-Hispanic whites and non-Hispanic blacks, respectively. Native American was used for both American Indian and Alaska Natives. The "other" race category included the heterogeneous group of Native Hawaiians, Pacific Islanders, other racial groups, and those who indicated more than one race. Education level was classified as: less than a high school diploma or graduate equivalency degree (GED), high school diploma or GED, some college, and college graduate. Annual household income was classified into quintiles as follows to account for the distribution of income in BRFSS: less than $10,000, $10,000–$19,999, $20,000–$34,999, $35,000–$49,999, $50,000 or more, and refused or not known. Health care coverage status was categorized as those that were covered by health insurance, prepaid plans, or government plans compared to those without any health care coverage. Employment status was dichotomized with employed for wages and self-employed considered "Employed," and being out of work, homemaker, student, retired, or unable to work considered "Not employed." Marital status was dichotomized into married and "Not married." Participants provided subjective ratings of general health status based on the question: "Would you say that in general your health is excellent, very good, good, fair, or poor?", and these were dichotomized into "good or better" and "fair or worse". Finally, participants were asked how many children less than 18 years of age live in their household. Their responses were dichotomized into children at home (number of children living at home > 0) or no children at home.

Statistical Analyses

To account for the complex multistage, stratified sampling design of the BRFSS, we conducted the analysis using SAS-callable SUDAAN version 10.0.1 (RTI International, Research Triangle Park, NC, USA). We calculated weighted prevalence estimates and corresponding 95 % confidence intervals (CIs) for not having had a routine checkup in the year before the survey by socio-economic status and demographic characteristics among reproductive age women. We also calculated weighted prevalence estimates for all levels of the three independent variables by socio-economic status and demographic characteristics. However, only data from those with the lowest level of social-emotional support, the lowest level of life satisfaction, and those with frequent mental distress are presented in the third table for clarity. Significant differences in the distribution of these factors were determined by χ^2 test with a p value <0.05. Three separate models were developed using multivariable logistic regression analysis to assess relationships for each of the three measures (social-emotional support, life satisfaction, and mental distress) with not having a routine checkup within the past year. After including all covariates in an initial model, a manual backward selection procedure was used to produce the final models. A change of 10 % in the log likelihood ratio between models was used as the criterion. The final model for each of the three main independent variables (social-emotional support, life satisfaction, or mental distress) included four covariates: age, race/ethnicity, income, and health care coverage.

Results

Among US women 18–44 years old, the majority were in good or better health, had health care coverage, and had at least one child under 18 years old living at home. More than one-third of the women were of racial/ethnic groups other than white, were college graduates, and had annual household incomes over $50,000 (Table 2).

Approximately one-third of the women in this sample reported they had not had a routine checkup in the past year (Table 3). Women aged 18–34 were less likely to have had an annual checkup compared to women aged 35–39 and 40–44. The prevalence of not having had a routine checkup in the past year was significantly lower among women who were Black compared to all other race groups, college graduates compared to those of lower education, those with health care coverage compared to those without, and among those with an annual household income of $50,000 or more compared to all other levels of income. In addition, the prevalence of not having had a routine checkup in the past year was significantly higher among women who were not employed, not married, and reported a fair or worse general health status, compared to those that were employed, married, and reported good or better health status, respectively.

Overall, nearly 20 percent of women reported receiving the lowest level (i.e., sometimes or less) of social-emotional support, while 5.6 % reported being dissatisfied with their lives, and 13.1 % reported experiencing frequent mental distress (Table 3). There were also several differences in prevalence for each of these three measures (e.g., social-emotional support, life satisfaction, and frequent mental distress) according to levels of other examined characteristics. Women with an education of high school or lower, the lowest incomes, without health care coverage, not employed, not married, and who reported a fair or worse general health status had the highest prevalence of all three measures, compared to their respective counterparts.

For the social-emotional support measure, there were distinct differences among groups in the prevalence of not having a routine check up in the past year. Among those who reported that they received the social-emotional support they needed sometimes or less frequently, 40.9 % did not have a routine checkup in the past year (Table 4). Among those who reported they received the social-emotional support they needed most of the time, 35.4 % did not have a routine checkup in the past year. Among those who reported that they always received the social-emotional support they needed, 29.9 % did not have a routine checkup in the past year. The significant differences in the crude measures persisted in the final model adjusting for age, race, education, and health care coverage with women who reported receiving social-emotional support most of the time (AOR = 1.29, 95 % CI 1.20–1.38) and women who sometimes or never received social-emotional support (AOR 1.47, 95 % CI 1.34–1.61) more likely to have not had a routine checkup compared to women who always received the social-emotional support they needed.

There were differences in the life satisfaction measure among those not having a routine check up in the past year. Among those who reported being dissatisfied with life, 44.7 % did not have a routine checkup in the past year (Table 4). Among those who reported being

satisfied with life, 36.5 % did not have a routine checkup in the past year. Among those who reported being very satisfied with life, 29.3 % did not have a routine checkup in the past year. The significant differences in the crude measures persisted in the final model adjusting for age, race, education, and health care coverage, with women who reported being satisfied (AOR = 1.27, 95 % CI 1.19–1.36) and those that were dissatisfied (AOR = 1.65, 95 % CI 1.43–1.91) more likely to have not had a routine checkup compared to women who reported they were very satisfied with their lives.

Among those who reported frequent mental distress, 39.7 % had no routine checkup in the past year compared to 32.8 % for those who did not report frequent mental distress (Table 4). The significant differences in the crude measures persisted in the final model adjusting for age, race, education, and health care coverage, with women with frequent mental distress (AOR = 1.19, 95 % CI 1.09–1.30) more likely to have not had a routine checkup compared to women who experienced less frequent mental distress.

Discussion

Over one-third (approximately 18.8 million) of US women aged 18–44 years had not been to the doctor for a routine checkup within the past year in 2009. This study found that women who experience lower levels of social-emotional support, low levels of life satisfaction, and frequent mental distress were more likely to have not had a routine checkup even after adjusting for factors related to socio-economics and health care coverage.

The routine checkup is considered the ideal occasion for screening for health behaviors [29, 32, 33, 36]. Previous research has shown that a recommendation by a physician has an impact on the use of screening services, suggesting that those who have not developed a trusting relationship with a physician may be even less likely to undergo screenings, or initiate and maintain behavioral change [44–46]. Women with low levels of social-emotional support, low levels of life satisfaction, and frequent mental distress maybe most in need yet are less likely to have a routine checkup where they could be screened for and treated for appropriate physical or mental health conditions. It may be helpful for other patient-provider interactions, such as family planning and prenatal care visits, to also include screening for social-emotional and mental health to provide more comprehensive care to women of reproductive age. Screening results indicating a lack of social-emotional support or poor mental health could then be used to refer patients to community resources to address these issues when available.

Other factors that may influence health care utilization among reproductive-aged women include age, race, education, type of health care coverage, and accessibility of providers [28, 29, 32]. Our study identified similar results among the available variables, with women who had lower education, lower incomes, and those without health care coverage being less likely to have had a routine checkup. Many of these same factors also are increasingly being referred to as Social Determinants of Health, are complex in nature, and may result from long-term health inequalities [47]. A recent study of women by Mosca et al. [48] showed that awareness that cardiovascular disease was the leading cause of death in women nearly doubled from 1997 to 2005 and was associated with positive action to reduce risks (added

more physical activity, avoided more unhealthy foods, quit smoking, and lost weight). The most frequently cited barriers were not related to health care access, but were to confusion in the media (49 %), the belief that health is determined by a higher power (44 %), caretaker responsibilities (42 %), and didn't perceive themselves to be at risk (36 %). Thus, it is important to develop programs that can address multiple factors such as these, other Social Determinants of Health, and some of the more typical barriers to care (i.e., health coverage, availability of providers, costs, and adequacy of health coverage) in order to promote effective utilization of routine health care services.

Strengths of this study include a large sample size of women of reproductive age to assess these three measures of social-emotional and mental health. Another strength is that the estimates are generalizable to the US population of women aged 18–44 years in all states. However, this study is subject to some limitations. First, BRFSS data is based on self-report and subject to recall bias. For example, previous research has demonstrated that self-reports of health services utilization tend to overestimate the actual extent of screening and doctor visits [49, 50]. Additionally, some individuals may have reported receipt of a routine checkup for what was in fact an illness-related visit [30]. However, there is no reason to believe that over-reporting of routine checkups affected any group more than another in this study. Thirdly, BRFSS is limited to community-dwelling adults with a landline telephone and does not include institutionalized adults nor those without access to a landline telephone. Therefore, the social-emotional and mental health measures presented in this study thus may be underestimates and not representative of populations not surveyed. A fourth limitation could result if women who were pregnant within the past year accessed health care services for prenatal care when many preventive primary care services are provided and may or may not have considered it to be a routine checkup as listed in the BRFSS question. Unfortunately, this level of detail about pregnancy in the past year is not available in the data and a differential response to this question based on pregnancy history is not anticipated. There is a question about being currently pregnant in the survey and it was decided to those that were pregnant in the analysis in order to be representative of the age group. Lastly, the cross-sectional nature of BRFSS only captures information on the measures in this study at a single point in time and does not allow examination of temporality. Therefore, the study cannot determine causality; but does identify potential areas for additional investigation into the relationships among social emotional support, life satisfaction, and mental distress with having a routine checkup.

These limitations notwithstanding, the results of this study provide useful information on the prevalence of low levels of social-emotional support, low levels of life satisfaction, frequent mental distress, and their associations with the utilization of preventive health services by women of reproductive age after controlling for potential confounding factors. These measures are important health constructs that help identify women less likely to utilize health services. This information can be used in conjunction with established risk factors to develop focused strategies that provide appropriate support so these women access clinical services in order to increase exposure to preventative health opportunities and improve overall health.

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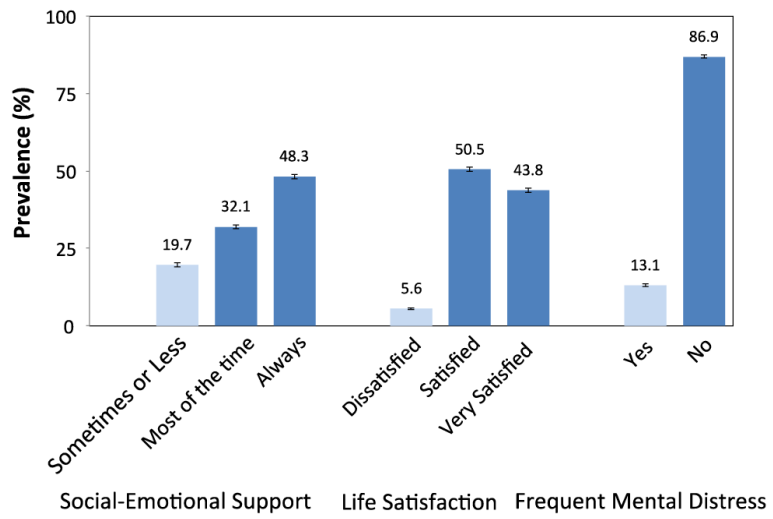
Fig. 1.
Distribution of socio-emotional support, life satisfaction, and frequent mental distress among women of reproductive age, US 2009

Table 1

Survey questions for social-emotional and mental health measures and routine checkups, BRFSS[a], 2009

Measure	Survey question	Response choices	Categories for analysis	Labels
Social-emotional support	How often do you get the social and emotional support you need?	Always Usually Sometimes Rarely Never	Always Usually Sometimes, rarely, or never (lowest level)	Always Most of the Time Sometimes or less
Life satisfaction	In general, how satisfied are you with your life?	Very satisfied Satisfied Dissatisfied Very dissatisfied	Very satisfied Satisfied Dissatisfied or very dissatisfied	Very satisfied Satisfied Dissatisfied
Mental distress	Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?	Number of days (0-30)	<14 days >14 days (frequent mental distress)	No Yes
Routine checkup	About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.	Within past year Within past 2 years Within past 5 years 5 or more years ago Don't know/Not sure Never	Within past year Not within the past year	Yes No

[a]Behavioral Risk Factor Surveillance System

Table 2

Selected demographic characteristics among women of reproductive age, BRFSS[a], 2009

Characteristic	n[b]	%[c]	95 % CI[d]
Age (years)			
18–24	6985	22.2	21.5–23.0
25–29	9509	16.1	15.6–16.6
30–34	13930	22.3	21.7–22.9
35–39	17211	18.1	17.7–18.6
40–44	19319	21.2	20.7–21.7
Race/ethnicity			
White	45517	61.2	60.5–61.9
Black	7494	11.6	11.2–12.1
Hispanic any race	8471	19.4	18.8–20.0
Asian	1796	3.7	3.4–4.0
Native American	1244	0.9	0.8–1.1
Other	2423	3.1	2.9–3.4
Education level			
<High school (HS)/graduate equivalent degree (GED)	5341	10.4	9.9–10.9
HS graduate/GED	15707	23.9	23.3–24.6
Some college	19584	29.2	28.6–29.9
College graduate	26135	36.5	35.8–37.1
Annual household income			
<$10,000	3673	6.0	5.6–6.3
$10,000–$19,999	7227	11.4	10.9–11.9
$20,000–$34,999	11429	16.5	16.0–17.1
$35,000–$49,999	8833	12.5	12.0–13.0
$50,000	29129	41.5	40.8–42.1
Refused or not known	6607	12.2	11.7–12.7
Health care coverage			
Yes	55526	80.6	80.0–81.2
No	11274	19.4	18.8–20.0
Employment status			
Employed	43456	59.5	58.8–60.2
Not employed	23219	40.5	39.8–41.2
Marital status			
Married	39747	56.3	55.5–57.0
Not married	27011	43.7	43.0–44.5
Children<18 years of age living at home			
Yes	50817	73.0	72.4–73.7
No	15922	27.0	26.3–27.6
Self-reported general health status			
Good or better	59399	88.8	88.3–89.2

Characteristic	n[b]	%[c]	95 % CI[d]
Fair or worse	7320	11.2	10.8–11.7

[a]Behavioral Risk Factor Surveillance System

[b]Unweighted number of survey respondents

[c]Weighted percentages

[d]Confidence interval around the weighted prevalence estimate

Table 3

Prevalence estimates of no routine checkup in past year, social-emotional support of Sometimes or less, life satisfaction of dissatisfaction, and frequent mental distress, among US women aged 18–44 years, BRFSS[a], 2009

Demographic characteristics	No routine checkup in past year		Social-emotional support: sometimes or less		Life satisfaction: dissatisfied		Frequent mental distress	
	%[b]	95 % CI[c]	%	95 % CI	%	95 % CI	%	95 % CI
Total	33.7	33.0–34.4	19.7	19.1–20.3	5.6	5.3–6.0	13.1	12.7–13.6
Age (years)	$p<0.0001$*		$p = 0.02$		$p<0.0001$		$p = 0.30$	
18–24	34.6	32.8–36.6	19.5	17.9–21.3	5.6	4.7–6.8	13.3	12.1–14.7
25–29	38.0	36.3–39.7	20.0	18.6–21.5	5.7	4.9–6.7	14.2	13.0–15.4
30–34	35.3	33.9–36.6	18.9	17.7–20.1	5.5	4.8–6.2	12.6	11.7–13.5
35–39	31.3	30.1–32.6	19.5	18.4–20.7	5.3	4.7–5.9	12.9	12.0–13.8
40–44	29.9	28.8–31.0	20.6	19.6–21.7	6.1	5.6–6.7	12.8	12.1–13.7
Race/ethnicity	$p<0.0001$		$p<0.0001$		$p<0.0001$		$p<0.0001$	
White	35.0	34.2–35.8	14.7	14.1–15.3	5.0	4.6–5.4	12.7	12.1–13.2
Black	21.1	19.3–22.9	30.4	28.3–32.5	8.9	7.8–10.1	15.4	13.9–16.9
Hispanic any race	36.5	34.7–38.3	28.1	26.2–30.0	5.3	4.4–6.3	13.5	12.2–14.9
Asian	33.2	29.2–37.4	22.8	19.0–27.1	4.3	2.5–7.4	5.3	3.7–7.6
Native American	35.1	29.7–40.9	27.0	22.0–32.6	9.4	6.6–13.2	19.3	15.4–24.0
Other	38.2	34.2–42.4	25.4	22.1–29.1	10.2	7.6–13.6	18.7	15.6–22.3
Education level	$p<0.0001$		$p<0.0001$		$p<0.0001$		$p<0.0001$	
<High school (HS)/graduate equivalent degree (GED)	39.0	36.6–41.4	39.9	37.3–42.6	9.5	8.1–11.1	19.5	17.6–21.4
HS graduate/GED	37.0	35.5–38.5	25.2	23.9–26.6	7.9	7.0–8.9	16.6	15.6–17.8
Some college	33.6	32.4–34.8	18.5	17.4–19.6	5.9	5.4–6.6	14.6	13.7–15.6
College graduate	30.1	29.1–31.1	11.7	11.0–12.4	3.0	2.6–3.4	7.7	7.2–8.3
Annual household income	$p<0.0001$		$p<0.0001$		$p<0.0001$		$p<0.0001$	
< $10,000	34.7	31.9–37.6	40.1	36.9–43.3	13.5	11.5–15.8	24.5	22.1–27.1
$10,000-$19,999	41.1	38.9–43.3	35.4	33.2–37.7	11.9	10.5–13.5	23.4	21.6–25.3
$20,000-$34,999	39.4	37.7–41.2	26.3	24.7–27.9	7.9	7.0–9.0	16.6	15.3–18.0
$35,000-$49,999	34.2	32.3–36.2	17.2	15.6–18.8	4.8	3.8–6.1	12.6	11.3–14.1
$50,000	28.5	27.6–29.4	10.4	9.7–11.0	2.1	1.9–2.5	7.5	7.0–8.0
Refused or not known	35.5	33.4–37.7	22.3	20.3–24.4	6.3	5.3–7.5	12.9	11.6–14.4
Health care coverage	$p<0.0001$		$p<0.0001$		$p<0.0001$		$p<0.0001$	
Yes	28.2	27.5–28.8	16.9	16.3–17.5	4.7	4.4–5.1	11.7	11.2–12.2
No	56.6	54.8–58.3	31.8	30.0–33.6	9.7	8.6–10.9	19.2	17.9–20.7
Employment status	$p<0.0001$		$p<0.0001$		$p<0.0001$		$p<0.0001$	
Employed	31.6	30.8–32.4	16.6	15.9–17.3	4.0	3.6–4.3	10.6	10.1–11.2
Not employed	36.8	35.6–38.0	24.1	23.1–25.2	8.1	7.4–8.8	16.7	15.9–17.6
Marital status	$p<0.01$		$p<0.0001$		$p<0.0001$		$p<0.0001$	
Married	32.8	32.0–33.6	14.9	14.2–15.5	3.2	2.9–3.6	10.2	9.7–10.8

Demographic characteristics	No routine checkup in past year		Social-emotional support: sometimes or less		Life satisfaction: dissatisfied		Frequent mental distress	
	%[b]	95 % CI[c]	%	95 % CI	%	95 % CI	%	95 % CI
Not married	34.9	33.8–36.1	26.0	24.9–27.1	8.8	8.1–9.5	16.9	16.0–17.7
Children<18 years of age living at home	p = 0.94		p<0.0001		p<0.0001		p = 0.09	
Yes	33.7	32.9–34.5	20.5	19.8–21.2	5.2	4.8–5.6	12.9	12.3–13.4
No	33.7	32.4–35.2	17.6	16.5–18.8	6.9	6.1–7.7	13.8	12.9–14.9
Self–reported general health status	p<0.0001		p<0.0001		p<0.0001		p<0.0001	
Good or better	33.2	32.4–33.9	16.8	16.2–17.4	4.1	3.8–4.5	10.2	9.8–10.7
Fair or worse	38.0	36.0–40.1	42.4	40.2–44.7	18.0	16.4–19.8	36.1	34.1–38.2

[a]Behavioral Risk Factor Surveillance System

[b]Weighted prevalence estimates

[c]Confidence interval around the weighted prevalence estimate

*p values were assessed based on tests of chi square distribution

Table 4

Estimated prevalence and odds ratios for reporting no routine checkup in the past year according to self-reported levels of social-emotional support, life satisfaction, and mental distress among women of reproductive age, BRFSS, 2009

Independent variables	No routine checkup in the past year					
	Overall prevalence		Crude models		Adjusted models[d]	
	%[a]	95 % CI[b]	OR[c]	95 % CI	OR	95 % CI
Social-emotional support[†]						
Sometimes or less	40.9	39.2–42.6	1.62[†]	1.49–1.77	1.47[†]	1.34–1.61
Most of the time	35.4	34.3–36.7	1.29[†]	1.20–1.38	1.29[†]	1.20–1.38
Always	29.9	28.9–30.9	1.00	Reference	1.00	Reference
Life satisfaction[†]						
Dissatisfied	44.7	41.4–48.0	1.95[†]	1.69–2.24	1.65[†]	1.43–1.91
Satisfied	36.5	35.5–37.5	1.39[†]	1.30–1.48	1.27[†]	1.19–1.36
Very satisfied	29.3	28.4–30.3	1.00	Reference	1.00	Reference
Frequent mental distress[†]						
Yes	39.7	37.8–41.6	1.35[†]	1.24–1.47	1.19[‡]	1.09–1.30
No	32.8	32.1–33.5	1.00	Reference	1.00	Reference

[a] Weighted prevalence estimates

[b] Confidence interval around the weighted prevalence estimate

[c] Odds ratio

[d] Adjusted for age, race, income, and health care coverage

[†] $p < 0.0001$;

[‡] $p < 0.001$