

Original Article



Perceived social support among women of reproductive age attending a public health facility in a poor area of Northern Lima, Peru

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ABSTRACT

Background: Perceived social support (PSS) measures an individual's beliefs about the available support in need from family and friends, which is an important indicator of subjective wellbeing. The study aimed to determine the level of PSS among women of reproductive age attending a public health facility in a poor area of Northern Lima.

Methods: A total of 106 pregnant women and mothers of less than 3 years child who visited the health center for antenatal care and health education were included in the study. PSS was measured using the 12-item multidimensional scale of PSS. An independent sample t test was carried out to assess variation of PSS across characteristics of study population and health behavior.

Results: Of a maximum of 60, the average score of 12 items, each measured in 5-point Likert scale for PSS was 40.68 ± 9.46 , comprising of $26.34 (\pm 6.42)$ out of 40 for friends support and $14.11 (\pm 4.90)$ out of 20 for family support. The mean PSS was above 3 for all items related to family support, but it was less than 3 for half of the items related to friend support. PSS from family was slightly higher than from friends. PSS was found higher among Catholic, the respondent who was in living together with a relationship, respondents with higher monthly income and who consumed fruits ≥ 2 serving a day.

Conclusion: The study revealed a satisfactory level of PSS among the women, and mean PSS varied across socio-demographic factors and a few health behaviors in the study area.

Keywords: Social support; Pregnancy women; Family and friend; Social economic factor; Women's health; Peru

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Conflict of Interest

No potential conflict of interest relevant to this article was reported.

Author Contributions

Conceptualization: Kim YS, Sharma B, Kim D, Nam EW; Data curation: Kim YS, Sharma B, Jung Y, Kim D, Nam EW; Formal analysis: Kim YS, Sharma B; Funding acquisition: Kim D; Methodology: Nam EW; Project administration: Jung Y; Supervision: Kim D, Nam EW; Validation: Nam EW; Visualization: Jung Y, Nam EW; Writing - original draft: Kim YS, Sharma B; Writing - review & editing: Jung Y, Nam EW.

INTRODUCTION

Social support refers to the experience of being valued, respected, cared about, and loved by others who are present in one's life.¹ It includes both emotional and material resources that are provided to an individual through interpersonal communications.² Sources of such supports are family, friends, or any social groups to which one is affiliated.³ Social support can be measured in the form of perceived social support (PSS), subjective measurement of an individual's beliefs about the available support, that assesses individuals' confidence of the availability of adequate support when needed.^{4,5} PSS is important in individuals' general mental and physical wellbeing, both in daily life and when exposed to negative life events.^{2,6}

Previous studies show that social support is one of the most important indicators of health welfare, mental health conditions, and health behavior.^{7,10} It is viewed as vital to health promotion as it helps in satisfying an individual's physical and emotional needs.¹⁰ It is a strong determinant of thriving health, particularly among women.⁹ The findings show the role of social support is important in the health-promoting behaviors of women.⁸

Women who report lower levels of social-emotional support and frequent mental distress are less likely to see a doctor for a routine checkup.¹¹ Low social support was independently associated with non-adherence to diet, suggesting that family members with low social support may be at a heightened risk of cardiovascular disease.¹² Regarding the maternal health, studies show that prenatal social support on maternal and infant health indicated that women who received more support had babies with higher Apgar scores and higher birth weight, experienced less postpartum depression.^{13,14} Research indicates that 25% of the variance in health-promoting lifestyle practices was explained by postpartum depression and social support.¹⁵

PSS can affect the different aspects of self-care activities in pregnant women positively.¹⁶ Social support from friends and family is important in nursing care in the postpartum period.¹⁷ It is supported that support from family and friends are important for self-care ability during pregnancy and child care and postpartum wellbeing.^{18,19} Although there was lack of evidence about the PSS and its association within maternal and child health care in Peru, a study reports evidence of the association between low PSS and induced abortion among women aged 18 to 25 years.²⁰ The studies conducted in different countries also report that PSS is affected by socio-economic factors, and affects the physical and mental wellbeing of people.²¹⁻²³ However, there is a lack of literature about PSS that women perceived from their friends and family during pregnancy and after childbirth in the study area. As it is important to have an understanding of the level of PSS and its variation across different characteristics of the population to initiate efforts about it, we aimed to assess its level in the study. In the study, we focused on measuring individuals' experience in obtaining support from their family and friends, in other words, their PSS. The study aimed to determine the level of PSS and its variation across socio-demographic factors and health behaviors among women of reproductive age living in poor areas in Lima.

METHODS**Study area and population**

The interviews were conducted with the women of reproductive age who were either pregnant or with a child of fewer than 3 years and visited the health center for antenatal care (ANC) or health education in the Pachacutec area. There is only 1 health center providing an

institutional delivery service in the project area, which was implemented by Yonsei University, namely Pachacutec Health Center, and most pregnant women come here for prenatal screening and post-partum care. We included the women of childbearing age who visited the center for ANC check or health education class and agreed to participate in the survey.

Sample size

The Pachacutec area has a population of 230,000 people. Of the 112,700 women, 50.3% (as of 2011) were of childbearing age. Of them, 56,688 women of childbearing age, an estimated 5% gave birth to 2,885 babies in 2011. We calculated the sample size using a confidence level of 95% and an error rate of 5% with a population of 2,885. The estimated sample size was 340 women (<https://www.surveymonkey.com/mp/sample-size-calculator/>), however, about one-third, 106 data was collected in the actual survey.

Data collection

Data were collected during a program of ANC and health education implemented by the Health Promotion Program operated by Yonsei University at Pachacutec Health Center. College students and individuals from the program received 1 day of training on the questionnaire and information collection techniques. The interviews were conducted in the waiting room for the treatment service and the education venue at the health center. The information was collected for 10 days in June 2015.

Measurement of variables

PSS was measured using the 12-item Multidimensional Scale of PSS.²⁴ The measurement included 12 items on a scale ranging from 1 to 5, where '1' indicates the lowest support and '5' the highest. These items were also used in previous studies and demonstrated good internal and test-retest reliability as well as moderate construct validity.^{24,25} Among the 12 items, 8 were related to support from friends and 4 to support from family. The scale is recommended as an instrument to assess the PSS of various samples.²⁶

In the study, the reliability of the PSS items was measured in term of Cronbach's α . Cronbach's α was 0.759 for 8 items related to friends' support, 0.888 for 4 items related to family support, and 0.828 for 12 items measuring overall PSS. It meant the internal consistency of the items measuring PSS was good. Hand washing was measured on a 5-point Likert scale, where '1 = not all' and '5 = always.' For smoking behavior, the question was "Have you ever smoked?" A similar question was asked for alcohol use. To assess additional salt intake, we asked, "Do you add salt to your meals?" Regarding the consumption of fast food, the question was as follows: "In the past year, how often did you have fast food such as hamburgers, potato chips, roast chicken, pizza, or fried chicken?" The responses were categorized as 'at least once a week' and 'more than once a week.' Regarding fruit consumption, we asked, "How many times do you eat fruit per day including cooked bananas?" The responses were categorized as ' ≥ 2 times a day' and ' \leq once a day.' For vegetable salad consumption, we asked, "Over the past week, when did you eat a vegetable salad?" For physical activity, the question was, "On how many days did you do at least 1 hour of physical activity in the last week?" Furthermore, general questions were asked to assess education, monthly income, religion, and occupation.

Data analysis

The proportion and mean were calculated to find out the level of PSS, the socio-demographic characteristics and health behavior of the study population. Mean PSS was calculated for each

item, and for a total score for friends support and family support, and for an overall score of all 12 items. An independent sample t test was conducted to find out the difference of PSS across socio-demographic characteristics and health behavior. The level of significance was fixed at 5%. All tests were 2-tailed.

Ethical approval

The study was approved by DIRESA Callao State in Peru. The study was also approved by the Institutional Review Board (IRB) of the Wonju Campus of Yonsei University (IRB No. 1041849-201410-BM-048-02). Before data collection, interviewers were trained, and the respondents were informed about the purpose and contents of the research and were agreed to participate.

RESULTS

Of the respondents, 57.5% were aged from 15 to 29 years. Of these, 46.2% were pregnant at the time of the interview. Furthermore, 83.0% reported an income level of \geq \$167, and more than half (54.7%) were Catholic. In addition, 70.8% were married or in a “living together” relationship. Most (81.1%) were housewives by occupation and only 10.4% had attained an education level beyond middle school. Of the respondents, 68.9% stayed in their own room and most (67.0%) reported washing their hands after returning home from outside and 84.9% washed them before meals. In total, 68.9% had consumed vegetable salad within the last 4 days prior to the survey. However, 80.2% consumed more fruits (\geq 2 or more servings each day). Furthermore, 66.0% had consumed carbonated or sugary drinks at least once in the last week before the survey. Regarding physical activity, only 24.5% did physical activity for at least 1 hour for \geq 3 days in the last 1 week preceding the survey. Of these, 29.2% had smoked and 83.0% drank alcoholic drinks (**Table 1**).

The overall average for PSS was 40.6 (\pm 9.4) out of a maximum score of 60 measured by 12 items. The average perceived support from friends was 26.3 (\pm 6.4) out of 40, and from family 14.1 (\pm 4.9) out of 20. In other words, the average of PSS of all 12 items was 3.39 as measured in a 5-point Likert scale, 3.29 related to friends for 8 items, and 3.52 related to the family for 4 items. The mean score was above 3 for all items except for 4 items related to support from friends. The highest mean score of 3.89 was observed for the item indicating a special person with whom to share joys and sorrows, followed by having a special person in their lives that worries about their emotions. Cronbach's α of 12 items of PSS was 0.828, and it was 0.759 for 8 items related to friends' support and 0.888 for 4 items related to family support, indicating good internal consistency of the items (**Table 2**).

The mean for PSS was significantly higher among the Catholic group than others and significantly higher among participants in a living together relationship than the other group. The mean PSS was 34.9 for respondents with a monthly income below \$167, and 41.8 for those earning \geq \$167. The social support of the high-income group was higher than that of the low-income group. There was no significant association between other socio-demographic variables and psychological support variables ($P > 0.05$) (**Table 3**).

Mean PSS did not differ across different health behavioral group except among those who consume fruit consumption and those who did not. The mean PSS was significantly higher among those who ate \geq 2 servings of fruit each day ($P < 0.05$) (**Table 4**).

Table 1. Socio-demographic characteristics and health behavior of the study population

Variables	No. (%)
Sociodemographic	
Age group (yr)	
15–29	61 (57.5)
30–49	42 (39.6)
Pregnancy status	
Yes	49 (46.2)
No	46 (43.4)
Income level (in US dollar)	
50–166	12 (11.3)
≥ 167	88 (83.0)
Religion	
Catholic	58 (54.7)
Other	47 (44.3)
Marital status	
Married/living together	75 (70.8)
Other	8 (7.5)
Occupation	
Housewife	86 (81.1)
Other	17 (16.0)
Education	
Incomplete/completed elementary school	20 (18.9)
Incomplete/completed middle school	72 (67.9)
Above middle school	11 (10.4)
Current residence	
Own home	73 (68.9)
Other	16 (15.1)
Health behaviors	
Hand washing after returning home	
Always/almost always	71 (67.0)
Never/rarely/sometimes	32 (30.2)
Hand washing before meals	
Always/almost always	90 (84.9)
Never/rarely/sometimes	16 (15.1)
Hand washing after going to the toilet	
Always/almost always	97 (91.5)
Never/rarely/sometimes	6 (5.7)
Vegetable salad consumption	
Within last 4 days	73 (68.9)
≥ 5 days before	32 (30.2)
Fruits consumption/day	
≥ 2 or more servings	85 (80.2)
< 2 servings	21 (19.8)
Sugary drink consumption in last week	
Yes	70 (66.0)
No	34 (32.1)
Physical activity at least 1 hour a day	
≥ 3 days	26 (24.5)
< 3 days	46 (43.4)
Smoking	
Yes	31 (29.2)
No	74 (69.8)
Alcohol use	
Yes	88 (83.0)
No	18 (17.0)

Table 2. Mean value of PSS

Measurement of PSS	No.	Range	Mean (\pm SD)	Cronbach's α
1. A special person is around when I need help.	106	1–5	3.87 (1.15)	0.759
2. There is a special person with whom I can share my joys and sorrows.	106	1–5	3.89 (1.31)	0.759
3. I have a special person who is a real source of comfort to me.	105	1–5	3.81 (1.27)	0.759
4. My friends really try to help me.	104	1–5	2.75 (1.34)	0.759
5. When I am in trouble, I can rely on my friends.	106	1–5	2.57 (1.42)	0.759
6. I have friends with whom I can share my joy and sorrow.	104	1–5	2.90 (1.43)	0.759
7. A special person in my life cares about my feelings.	105	1–5	3.88 (1.34)	0.759
8. I can talk to my friends about my problems.	106	1–5	2.65 (1.36)	0.759
Support from friends	101	1–40	26.34 (6.42)	
Average support from friends	101	1–5	3.29 (0.80)	
9. My family really tries to help me.	104	1–5	3.67 (1.38)	0.888
10. I get the emotional help and support I need from my family.	105	1–5	3.70 (1.40)	0.888
11. I can talk about my problems with my family.	106	1–5	3.41 (1.37)	0.888
12. My family is willing to help me make decisions.	105	1–5	3.32 (1.49)	0.888
Support from family	102	1–20	14.11 (4.90)	
Average support from family	102	1–5	3.52 (1.22)	0.828
Overall	99	1–60	40.68 (9.46)	
Total average support	99	1–5	3.39 (0.78)	

PSS = perceived social support; SD = standard deviation.

Table 3. Mean PSS across socio-demographic factors

Variables	Categories	PSS		
		No.	Mean (\pm SD)	Difference (95% CIs)
Age (yr)	15–29	57	41.1 (9.7)	1.5 (–2.3, 5.4)
	30–49	40	39.6 (9.0)	
Religion	Catholic	53	42.7 (8.4)	4.85 (1.17, 8.54) ^a
	Other	45	37.9 (9.8)	
Marital status	Living together	60	41.6 (8.8)	6.1 (1.3, 11.0) ^a
	Married/single/separated	17	35.4 (8.7)	
Monthly income (in US dollar)	≥ 167	83	41.8 (9.0)	7.24 (1.21, 13.26) ^a
	50–166	10	34.6 (9.1)	
Occupation	Housewife	79	41.1 (9.5)	1.13 (–3.9, 6.1)
	Other	17	40.0 (9.1)	
Education	Incomplete/complete primary	18	42.1 (8.7)	1.7 (3.2, 6.7)
	Middle school and above	78	40.3 (9.7)	
Residence type	Own home	69	40.1 (9.5)	–3.5 (–9.0, 2.0)
	Other type	15	43.6 (11.2)	
Partner's occupation	Employed/self-employed	65	40.8 (9.4)	–1.3 (–5.6, 2.8)
	Other	27	42.2 (9.0)	
Current status	Pregnant	46	41.0 (10.1)	1.0 (–2.9, 5.0)
	Not pregnant	42	40.0 (8.6)	

PSS = perceived social support; CI = confidence interval; SD = standard deviation.

^aP-value < 0.05.

DISCUSSION

Of a maximum of 60, the average score of the 12 items, each measured in 5-point Likert scale for PSS was 40.68 ± 9.46 , comprising of $26.34 (\pm 6.42)$ out of 40 for friends support and $14.11 (\pm 4.90)$ out of 20 for family support. In other words, the average of PSS was 3.39 as measured in a 5-point Likert scale for 12 items, 3.29 related to friends for 8 items, and 3.52 related to the family for 4 items. The average score was more than 3 for all items related to family support, although the score was less than 3 for 4 items related to friends' support. A similar result was observed in a previous although the study measured perceived social satisfaction in 7-point Likert scale.²⁷ Although there was lack of sufficient literature for comparison regarding the level of PSS, based on the above-mentioned study and mean PSS level, the study

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Table 4. Mean PSS across health behavior

Variable	Categories	PSS		
		No.	Mean (\pm SD)	Difference (95% CIs)
Fruit consumption (day)	≥ 2 more servings	85	42.1 (8.7)	7.5 (2.9, 12.1) ^a
	< 2 servings	21	34.5 (10.0)	
Salad consumption (wk)	Within last 4 days	68	41.4 (8.4)	1.92 (–2.1, 6.01)
	≥ 5 days	30	39.5 (11.4)	
Fast food intake	At least once a week	21	39.1 (8.5)	–1.9 (–6.6, 2.6)
	Less than once a week	77	41.1 (9.7)	
Additional salt intake	Yes	28	39.2 (8.2)	–2.0 (–6.2, 2.1)
	No/do not remember	70	41.3 (9.9)	
Hand washing after returning home	Always/almost always	67	41.0 (9.3)	0.4 (–3.5, 4.4)
	Never/rarely/sometimes	31	40.5 (9.1)	
Hand washing after going to the toilet	Always/almost always	91	40.5 (9.3)	–5.9 (–13.6, 1.7)
	Never/rarely/sometimes	6	46.5 (5.5)	
Hand washing before meals	Always/almost always	83	41.1 (9.7)	2.8 (–2.2, 7.9)
	Never/rarely/sometimes	16	38.3 (7.4)	
Physical activity	≥ 3 days	24	41.0 (9.6)	0.2 (–4.3, 4.8)
	< 3 days	44	40.8 (8.8)	
Smoking experience	Yes	29	40.1 (9.2)	–0.7 (–4.9, 3.4)
	No	69	40.8 (9.6)	
Alcohol consumption	Yes	83	41.0 (9.0)	2.3 (–2.8, 7.4)
	No	16	38.7 (11.0)	

PSS = perceived social support; CI = confidence interval; SD = standard deviation.

^a*P*-value < 0.01.

revealed a satisfactory level of PSS among the women, and mean PSS varied along with socio-demographic factors and limited health behavior in the study area.

PSS is an important indicator in predicting the health and social wellbeing of a community. The previous study shows that high levels of social support were associated with positive health outcomes and low levels of social support with poorer health outcomes or risk-taking behavior.²¹ A negative perception of the family appeared to be strongly related to both emotional and behavioral dysfunctions.²³

In the study, mean PSS was significantly higher among those who reported living together than single/married and others in the study. In the study area, a higher proportion of the participants was in the status of living together, this shows a unique social system of the country. A previous study showed the married perceived higher social support as compared to others.²⁷ Similarly, respondents with higher income level had a higher mean of PSS which comparing with lower income group. The study observed that respondents in a higher income group perceived higher social support. Previous studies showed that lower perceptions of social support were associated with lower income and living in a poor household.^{27,28} These findings may help inform the contemporary policy debate surrounding the promotion of individual wellbeing and community through the alleviation of social exclusion.²⁸

In the study, mean PSS was significantly higher among the participants who consumed fruits ≥ 2 more servings each day as compared to those who consumed than 2 servings. In a population-based study, consumption of fruits has been proven to have an inverse relationship with the presence of depressive symptoms in Peru.²⁹ It might be that the respondents those who perceive higher social support consume fruits more frequently. However, such difference of mean PSS was not observed across other health behaviors. Regarding the religion, the mean PSS was significantly higher among Catholic respondents than the respondents who follow other religions (*P* < 0.05).

The study measured PSS and its variation across socio-demographic factors and health behavior among women of reproductive age attending a local health facility for an ANC checkup or health education program implemented by the project.

First of all, the study has a small sample size, this may hamper the generalization of the study. Secondly, the study population comprised both pregnant women and mothers with less than 3 years of a child. Third, the study is limited to those women who attended the health institution. However, the study has some important implications. It has measured the average score of PSS, score for family support and score for friends support and score for each item to fulfill the research gap in the study area. It also describes how this score varies in term of socio-demographic characteristics as well as health behavior which might help to plan large scale community-based survey. Regarding further studies, a large scale population-based survey can be conducted to determine the factors associated with PSS, and the role of PSS on health behaviors and wellbeing among women during pregnancy and the postpartum period.

In conclusion, the average score of 12 items of PSS was 40.68 ± 9.46 , comprising of 26.34 (± 6.42) out of 40 for friends support and 14.11 (± 4.90) out of 20 for family support. The mean PSS was above 3 except 4 items related to friends' support. PSS from family was slightly higher than from friends. PSS was found higher among Catholic, respondents being in living together with a relationship, the respondents with higher monthly income and those who consumed fruits ≥ 2 serving a day. The study revealed a satisfactory level of PSS among the women, and mean PSS varied across socio-demographic factors and a few health behaviors in the study area. While planning further studies on PSS or initiating efforts to improve PSS, socio-demographic and behavioral factors should be considered.

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