

Psychometric Testing of the French Language Quality of Prenatal Care Questionnaire

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Background and Purpose: To assess the psychometrics of the French language Quality of Prenatal Care Questionnaire (QPCQ). **Methods:** Data from 302 women were used in a confirmatory factor analysis and in assessment of construct validity through hypothesis testing and internal consistency reliability using Cronbach's alpha. **Results:** The 6 factors (subscales) were verified and confirmed. Hypothesis testing further supported construct validity. The overall QPCQ had acceptable internal consistency reliability (Cronbach's alpha = .97) as did 5 subscales (Cronbach's alpha = .70–.92); the Sufficient Time subscale had poorer reliability (Cronbach's alpha = .61). **Conclusions:** The French language QPCQ is a valid and reliable self-report measure of prenatal care quality. It can be used in research and in quality improvement work to strengthen prenatal care services.

Keywords: prenatal care; quality of health care; questionnaires; psychometrics; translation; French

Prenatal care is a widely used health service in Canada. The Canadian Maternity Experiences Survey found that all women surveyed had at least one prenatal care visit, with an average number of 13 visits (Public Health Agency of Canada, 2009). Prenatal care encompasses “the detection, treatment, or prevention of adverse maternal, fetal, and infant outcomes as well as interventions to address psychosocial stress, detrimental health behaviors such as substance abuse, and adverse socioeconomic conditions” (Alexander & Kotelchuck, 2001, p. 316). However, the evidence for the efficacy and

effectiveness of prenatal care has not been firmly established (Alexander & Kotelchuck, 2001; Moos, 2006). Research traditionally has focused on the association between adequacy of prenatal care, determined by the timing of initiation of care and number of visits, and pregnancy outcomes (Heaman, Newburn-Cook, Green, Elliott, & Helewa, 2008). As suggested by Alexander and Kotelchuck (2001), more attention needs to be given to attributes of the health care system and the prenatal care provider, and how these attributes influence the outcomes of prenatal care.

These attributes reflect the structure and process of care elements of Donabedian's (1966, 1988) quality of care model; the health care system determines the structure of care whereas prenatal care providers enact clinical and interpersonal care processes. Several studies have highlighted the potential importance of the quality of prenatal care encounters. The content of prenatal care often is considered a quality indicator and there is evidence that health promotion advice (Wilkinson & McIntyre, 2012), attention to risk factors (Public Health Agency of Canada, 2010), and adherence to prenatal care guidelines (Handler, Rankin, Rosenberg, & Sinha, 2012) can improve outcomes. Also, group prenatal care, which was designed to improve quality of care and perinatal outcomes by attending to recommended prenatal care content (Massey, Rising, & Ickovics, 2006), has been found to contribute to higher levels of prenatal knowledge, readiness for labor and birth, and satisfaction with care when compared to traditional prenatal care (Homer et al., 2012). Whereas quality of prenatal care might be equally or more important than quantity of care (Sword et al., 2012), research to examine relationships between care quality and various outcomes has been hindered by the lack of a comprehensive, theoretically grounded measure of the quality of prenatal care (Heaman et al., 2014).

In response to this scientific gap, the 46-item Quality of Prenatal Care Questionnaire (QPCQ) was developed and tested with samples of English-speaking women recruited from five major urban centers across Canada (Heaman et al., 2014). As reported by Heaman et al. (2014), the development of the instrument was guided by Donabedian's (1966, 1988) model of quality care. Instrument development was further informed by the work of Campbell, Roland, and Buetow (2000), who defined key components of Donabedian's structure and process categories (Heaman et al., 2014). The QPCQ is composed of six validated subscales: Information Sharing, Anticipatory Guidance, Sufficient Time, Approachability, Availability, and Support and Respect (Heaman et al., 2014).

The QPCQ has content, construct, and convergent validity (Heaman et al., 2014). Content validity was ensured by developing items based on a qualitative inquiry involving both pregnant women and care providers and on a review of prenatal care guidelines; in addition, the research team of content experts reviewed each item for its relevance (Heaman et al., 2014; Polit & Beck, 2012). Construct validity was established by a significant positive association between women's ratings of prenatal care quality and their satisfaction with care ($r = .81$). It also was established through assessment of convergent validity. This was demonstrated by a significant positive correlation between the "Support and Respect" subscale of the QPCQ and the "Respectfulness/Emotional Support" subscale of the Prenatal Interpersonal Processes of Care (PIPC) instrument (Heaman et al., 2014; Wong, Korenbrot, & Stewart, 2004). The internal consistency reliability of the overall QPCQ is acceptable (Cronbach's alpha = .96), as is the internal consistency reliability for each of the subscales (Cronbach's alpha = .73 to .93; Heaman et al., 2014). Test-retest reliability (Intraclass correlation coefficient = .88) and temporal stability at 4 to 6 weeks postpartum were confirmed (Heaman et al., 2014).

The objective of our study was to determine the psychometric properties of the French language QPCQ in a Francophone population. The QPCQ and a sociodemographic questionnaire were translated into French by a professional translation company. Back-translation was conducted and this translation was checked against the original text of the QPCQ for accuracy of the translation into French. Minor changes were made to ensure that the translation accurately captured the meaning of items as presented in the English language QPCQ. The French language QPCQ has a Flesch-Kincaid grade level score of 8.2, which means that individuals with a Grade 8 education can read and understand the QPCQ items. The Satisfaction subscale of the Patient Expectations and Satisfaction with Prenatal Care (PESPC) instrument (Omar, Schiffman, & Bingham, 2001) also was translated and back-translated to be able to assess construct validity of the QPCQ using a hypothesis-testing approach. The PESPC is a valid and reliable 41-item questionnaire with two subscales, Expectations and Satisfaction, and is designed to measure pregnant women's expectations and satisfaction with their prenatal care (Omar et al., 2001). It was tested in a socioeconomically diverse cross-sectional sample of 587 pregnant women. The Satisfaction subscale has acceptable internal consistency (Cronbach's $\alpha = .94$; Omar et al., 2001). Testing of the PESPC revealed the specificity of the concept of satisfaction and a negative correlation between the two subscales, suggesting it is appropriate to use the 29-item Satisfaction subscale alone (Omar et al., 2001).

METHODS

Setting and Sample

Women were recruited from the Family Birthing Centre at Hôpital Montfort, where approximately 3,200 births take place annually. Hôpital Montfort is a Francophone teaching hospital in Ottawa, Canada that serves the population of Eastern Ontario and Western Quebec. All services are available in French and English. Approximately 50% of the women giving birth at the Hôpital Montfort are Francophone. Women were eligible to participate in the study if they had given birth to a singleton live infant at 36 weeks' gestation or greater, were 16 years of age or older, had at least three prenatal care visits, and could read and write French. Women were excluded if they had a known psychiatric disorder that precluded participation in data collection, or if they had a stillbirth or early neonatal death because it would be inappropriate to collect data from women during the grieving process. We aimed for a sample of 300 women. As suggested by DeVellis (2003), a sample size of 200 most often is adequate in factor analysis and Comrey and Lee (1992) state that a sample size of 300 is acceptable for calculation of Cronbach's α in factor analysis.

Recruitment and Data Collection

One of three bilingual (French/English) research assistants attended the hospital's Family Birthing Centre approximately 5 days a week during the data collection period. With the assistance of the research assistants, Family Birthing Centre nurses identified whether their patients were eligible to participate in the study. Nurses or the care facilitator (team leader) approached eligible postpartum women and requested their consent to have a research assistant talk to them about the study. Research assistants briefly described the purpose and methods of the study to interested women and invited them to participate. All participants reviewed and signed a study consent form and completed the questionnaire.

prior to being discharged home. Women received a \$20.00 gift certificate to a drug store in appreciation for their time. Recruitment and data collection occurred between September 2012 and June 2013. Study participants completed the QPCQ (Heaman et al., 2014), the Satisfaction subscale of the PESPC instrument (Omar et al., 2001), and a brief sociodemographic form. The study received ethics approval from the Hamilton Health Sciences/McMaster University Faculty of Health Sciences Research Board (File number 07-362), the University of Ottawa Research Ethics Board (File number H05-12-02), and the Research Ethics Committee of Hôpital Monfort (File number WP-07-05-12).

Data Analysis

Descriptive statistics were applied to summarize the sociodemographic characteristics of study participants and to determine the mean and standard deviation for the QPCQ and each of its subscales. Subscale mean scores were calculated by reversing the scores of reverse-scored items, then summing the scores for the subscale items and dividing the sum by the number of items. Confirmatory factor analysis (CFA) was used to confirm the factor structure of the underlying dimensions of quality prenatal care that were identified in the initial psychometric testing of the QPCQ by assessing the items loading on each factor (subscale; Heaman et al., 2014). As was done in the psychometric testing of the original QPCQ, a hypothesis-testing approach also was used to assess construct validity (Streiner & Norman, 2003). It was hypothesized that women who rated their prenatal care of higher quality would have higher ratings of satisfaction with their care using the Satisfaction subscale of the PESPC. The Pearson correlation between the total QPCQ score and the Satisfaction subscale score was estimated. Cronbach's alpha was used to assess the internal consistency reliability of the QPCQ and each of its six subscales (Streiner & Norman, 2003). The *root mean square error of approximation* (RMSEA) statistic was used to assess the goodness-of-fit of the CFA model. The RMSEA is the most commonly used index for the evaluation of CFA (Ullman, 1996) and estimates the lack of fit of the model. A value of $RMSEA \leq .05$ indicates a close fit, a value between 0.05 and 0.10 suggests a reasonable fit, and a value larger than 0.10 is indicative of a poor model (Browne & Cudeck, 1993; Hu & Bentler, 1999). CFA was conducted using Amos Version 22 statistical program. All other statistical analyses were performed using SPSS Version 18.0 or Stata SE/12.1.

RESULTS

There were 302 postpartum women who were recruited into the study. Their sociodemographic characteristics are presented in Table 1 and their prenatal care and obstetrical data are presented in Table 2. The sample of women was predominately of high income (63% reported family incomes of \$80,000 or higher) and had high levels of education (57% had at least one university degree). The QPCQ factor (subscale) means and standard deviations are shown in Table 3. The mean scores for the factors ranged from 4.07 to 4.63 out of 5. Factor 4 (Approachability) had the highest mean rating and factor 2 (Anticipatory Guidance) had the lowest mean rating. CFA verified and confirmed the presence of the six factors. Table 4 shows the list of items loading on each factor. One item in the Sufficient Time subscale, *Mon (mes) fournisseur(s) de soins prénataux se dépêchait* (My prenatal care provider was rushed), had a considerably lower item-total correlation (.18 vs. .43 to .61) than other subscale items and the subscale had the lowest

TABLE 1. Sociodemographic Characteristics of Study Participants (N = 302)

Characteristic	Mean ^a	SD ^a
Maternal age (years)	30.1	4.3
Gestational age at first prenatal care visit (weeks)	9.6	5.7
Gestational age at delivery (weeks)	39.3	1.2
Infant birth weight (grams)	3,478.7	457.7
	<i>n</i> ^a	% ^a
Marital status		
Married	183	61.4
Common-law/living with partner	103	34.5
Single (never married)	10	3.4
Divorced	2	0.7
Household income		
No income	2	0.7
Below \$10,000	2	0.7
\$10,000–\$19,999	7	2.4
\$20,000–\$39,999	16	5.4
\$40,000–\$59,999	34	11.6
\$60,000–\$79,999	48	16.3
\$80,000 and above	185	62.9
Highest level of education		
Less than high school	13	4.3
Completed high school	16	5.4
Some community college/technical school/ <i>Cegép</i>	12	4.0
Completed community college/technical school/ <i>Cegép</i>	67	22.5
Some university	20	6.7
Completed bachelor's degree	113	37.9
Graduate degree	57	19.1
Born in Canada		
Yes	253	84.3
No	47	15.7
Language spoken most often at home		
French	215	71.4
French plus other language(s)	23	7.6
English	49	16.3
Other	14	4.7

^aMissing responses were excluded from analyses; valid percentages are reported.

TABLE 2. Participant Prenatal Care and Obstetrical Data (N = 302)

Prenatal care provider ^b	n ^a	% ^a
Obstetrician	243	80.7
Family physician	176	58.5
Nurse practitioner	21	7.0
Midwife	15	5.0
Physician unspecified	3	1.0
Other	21	7.0
Site of prenatal care		
Clinic	121	40.7
Outpatient department of a hospital	104	35.0
Private office	70	23.6
Other	2	0.7
Type of delivery		
Vaginal	212	71.4
Planned cesarean section	38	12.8
Unplanned cesarean section	47	15.8
Parity		
Primipara	150	49.8
Multipara	151	50.2
Maternal health		
Chronic health problem	33	11.3
Complication during pregnancy	61	20.7
Medical problem since delivery	17	5.8

^aMissing responses were excluded from analyses; valid percentages are reported.

^bPercentage reported for prenatal care providers is >100 as women were asked to indicate all that applied.

Cronbach's alpha (.61) of all the subscales. If this one particular item was deleted from the subscale, its Cronbach's alpha increased, indicating a need to revise or delete this item to improve the overall alpha level.

A significant positive correlation between the QPCQ total score and the Satisfaction subscale score of the PESPC provided additional support for construct validity (Pearson $r = .85$). The overall QPCQ demonstrated acceptable internal consistency reliability (Cronbach's alpha = .97) as did each of its subscales, with the exception of Sufficient Time (see Table 4). It has been suggested that a Cronbach's alpha less than .70 indicates poor reliability (Nunnally & Bernstein, 1994). The CFA analysis showed a reasonable fit of the prespecified model to the data set for the French language QPCQ (RMSEA = .061,

TABLE 3. Quality of Prenatal Care Questionnaire Factor (Subscale) Minimums, Maximums, and Means, and Standard Deviations (SD)

Subscale	Minimum	Maximum	Mean	SD
Factor 1— <i>Partage d'informations</i> (Information Sharing)	3.00	5.00	4.55	0.43
Factor 2— <i>Conseils par anticipation</i> (Anticipatory Guidance)	1.55	5.00	4.07	0.64
Factor 3— <i>Temps suffisant</i> (Sufficient Time)	2.20	5.00	4.32	0.53
Factor 4— <i>Facilité d'approche</i> (Approachability)	2.00	5.00	4.63	0.59
Factor 5— <i>Disponibilité</i> (Availability)	2.00	5.00	4.38	0.62
Factor 6— <i>Soutien et respect</i> (Support and Respect)	2.75	5.00	4.58	0.45
Total QPCQ	2.98	5.00	4.41	0.45

Note. QPCQ = Quality of Prenatal Care Questionnaire.

90% CI [0.057–0.065]). In addition, CFA showed that all six factors in the questionnaire are correlated with each other, hence yielding an oblique factor structure for the QPCQ.

DISCUSSION

The French language QPCQ and each of the six subscales were validated through CFA in a Francophone population. Validity was further confirmed through hypothesis testing using the PESPC, with the correlation between the French language QPCQ and the Satisfaction subscale of the PESPC being similar as in the testing of the English language QPCQ (Pearson $r = .85$ and $.81$, respectively; Heaman et al., 2014). The French language QPCQ demonstrated acceptable internal consistency reliability. The overall Cronbach's alpha of $.97$ is similar to that determined in testing of the English language QPCQ (Cronbach's alpha = $.96$) and the Cronbach's alpha for each subscale also was similar, with the exception of the Sufficient Time subscale (Cronbach's alpha $.61$ vs. $.81$; Heaman et al., 2014). This latter finding suggests the need for modification to the wording of the subscale item that had a low item–total correlation. Rather than delete the item, modified wording could be used in future research by including the item using both the original and alternative wording, and determining which performs better in psychometric testing.

Similar to the original English language QPCQ, the French language version is a psychometrically sound instrument that can be used in research and in quality assessment and improvement initiatives. The methodology used for its testing was rigorous; it replicated that used for testing of the original QPCQ, which was informed by a well-established methodological framework for the development and testing of measurement scales (Heaman et al., 2014). A limitation of this study of the French language QPCQ is that the sample generally was of high income and high education. The relatively high mean subscale scores might be indicative of the sample characteristics as a previous study

TABLE 4. Items on Each Factor, Corrected Item–Total Subscale Correlations, and Cronbach’s Alpha if Item Deleted From Subscale

Factor (Subscale) Items	Corrected Item-Total Subscale Correlation	Cronbach’s Alpha if Item Deleted
Factor 1: Information Sharing (9 items) Cronbach’s alpha = .84		
<i>J’ai reçu des informations adéquates concernant les tests et les procédures prénataux</i> (I was given adequate information about prenatal tests and procedures)	.56	.82
<i>J’ai toujours reçu des réponses honnêtes à mes questions</i> (I was always given honest answers to my questions)	.53	.83
<i>Toutes les personnes impliquées dans mes soins prénataux ont reçu les informations importantes me concernant</i> (Everyone involved in my prenatal care received the important information about me)	.51	.83
<i>J’ai reçu un dépistage adéquat pour les problèmes potentiels avec ma grossesse</i> (I was screened adequately for potential problems with my pregnancy)	.49	.83
<i>Les résultats des tests m’étaient expliqués d’une manière que je pouvais comprendre</i> (The results of tests were explained to me in a way I could understand)	.65	.81
<i>Mon (mes) fournisseur(s) de soins prénataux répondait à mes questions de façon simple et directe</i> (My prenatal care provider[s] gave straightforward answers to my questions)	.51	.83
<i>Mon (mes) fournisseur(s) de soins prénataux me donnait assez d’information pour me permettre de prendre les décisions moi-même</i> (My prenatal care provider[s] gave me enough information to make decisions for myself)	.64	.82
<i>Mon (mes) fournisseur(s) de soins prénataux a protégé la confidentialité de mes renseignements</i> (My prenatal care provider[s] kept my information confidential)	.50	.83

(Continued)

TABLE 4. Items on Each Factor, Corrected Item–Total Subscale Correlations, and Cronbach’s Alpha if Item Deleted From Subscale (Continued)

Factor (Subscale) Items	Corrected Item-Total Subscale Correlation	Cronbach’s Alpha if Item Deleted
<i>Je comprenais entièrement les raisons des prises de sang et des autres tests que mon (mes) fournisseur(s) de soins prénataux a demandé pour moi</i> (I fully understood the reasons for blood work and other tests my prenatal care provider[s] ordered for me)	.61	.82
Factor 2: Anticipatory Guidance (11 items) Cronbach’s alpha = .88		
<i>Mon (mes) fournisseur(s) de soins prénataux m’a proposé des options pour mon expérience pendant la naissance</i> (My prenatal care provider[s] gave me options for my birth experience)	.59	.87
<i>J’ai reçu suffisamment d’information pour répondre à mes besoins concernant l’allaitement</i> (I was given enough information to meet my needs about breast feeding)	.47	.87
<i>Mon (mes) fournisseur(s) de soins prénataux m’a préparé pour l’expérience de la naissance</i> (My prenatal care provider[s] prepared me for my birth experience)	.68	.86
<i>Mon (mes) fournisseur(s) de soins prénataux a pris le temps de me parler de mes attentes concernant le travail et l’accouchement</i> (My prenatal care provider[s] spent time talking with me about my expectations for labor and delivery)	.67	.86
<i>J’ai reçu suffisamment d’informations sur la sécurité de l’exercice modéré pendant la grossesse</i> (I was given enough information about the safety of moderate exercise during pregnancy)	.57	.87
<i>J’ai reçu des informations adéquates sur mon alimentation pendant ma grossesse</i> (I received adequate information about my diet during pregnancy)	.63	.86

(Continued)

TABLE 4. Items on Each Factor, Corrected Item–Total Subscale Correlations, and Cronbach’s Alpha if Item Deleted From Subscale (Continued)

Factor (Subscale) Items	Corrected Item-Total Subscale Correlation	Cronbach’s Alpha if Item Deleted
<i>Mon (mes) fournisseur(s) de soins prénataux s’intéressait à la façon dont ma grossesse affectait ma vie</i> (My prenatal care provider[s] was interested in how my pregnancy was affecting my life)	.61	.86
<i>On m’a mise en relation avec des programmes communautaires qui m’étaient utiles</i> (I was linked to programs in the community that were helpful to me)	.54	.87
<i>J’ai reçu des informations adéquates sur la consommation d’alcool pendant ma grossesse</i> (I received adequate information about alcohol use during pregnancy)	.45	.87
<i>J’ai reçu des informations adéquates sur la dépression pendant la grossesse</i> (I was given adequate information about depression in pregnancy)	.61	.86
<i>Mon (mes) fournisseur(s) de soins prénataux a pris le temps de me poser des questions sur les choses qui étaient importantes pour moi</i> (My prenatal care provider[s] took time to ask about things that were important to me)	.66	.86
Factor 3: Sufficient Time (5 items) Cronbach’s alpha = .61		
<i>J’ai pu passer le temps dont j’avais besoin avec mon (mes) fournisseur(s) de soins prénataux</i> (I had as much time with my prenatal care provider[s] as I needed)	.43	.55
<i>Mon (mes) fournisseur(s) de soins prénataux se dépêchait</i> (My prenatal care provider[s] was rushed)	.18	.82
<i>Mon (mes) fournisseur(s) de soins prénataux avait toujours le temps de répondre à mes questions</i> (My prenatal care provider[s] always had time to answer my questions)	.52	.51

(Continued)

TABLE 4. Items on Each Factor, Corrected Item–Total Subscale Correlations, and Cronbach’s Alpha if Item Deleted From Subscale (Continued)

Factor (Subscale) Items	Corrected Item-Total Subscale Correlation	Cronbach’s Alpha if Item Deleted
<i>Mon (mes) fournisseur(s) de soins prénataux trouvait du temps pour que je puisse parler</i> (My prenatal care provider[s] made time for me to talk)	.55	.50
<i>Mon (mes) fournisseur(s) de soins prénataux a pris le temps d’écouter</i> (My prenatal care provider[s] took time to listen)	.61	.48
Factor 4: Approachability (4 items) Cronbach’s alpha = .70		
<i>Mon (mes) fournisseur(s) de soins prénataux était brusque avec moi</i> (My prenatal care provider[s] was abrupt with me)	.47	.64
<i>On me bousculait pendant mes visites de soins prénataux</i> (I was rushed during my prenatal care visits)	.49	.62
<i>Mon (mes) fournisseur(s) de soins prénataux me donnait l’impression que je lui faisais perdre son temps</i> (My prenatal care provider[s] made me feel like I was wasting their time)	.54	.60
<i>J’avais peur de poser des questions à mon (mes) fournisseur(s) de soins prénataux</i> (I was afraid to ask my prenatal care provider[s] questions)	.43	.67
Factor 5: Availability (5 items) Cronbach’s alpha = .83		
<i>Je savais comment entrer en contact avec mon (mes) fournisseur(s) de soins prénataux</i> (I knew how to get in touch with my prenatal care provider[s])	.52	.82
<i>Mes appels ont toujours été retournés par quelqu’un du bureau de mon (mes) fournisseur(s) de soins prénataux</i> (Someone in my prenatal care provider[s]’s office always returned my calls)	.56	.81

(Continued)

TABLE 4. Items on Each Factor, Corrected Item–Total Subscale Correlations, and Cronbach’s Alpha if Item Deleted From Subscale (Continued)

Factor (Subscale) Items	Corrected Item-Total Subscale Correlation	Cronbach’s Alpha if Item Deleted
<i>Mon (mes) fournisseur(s) de soins prénataux était disponible lorsque j’avais des questions ou des préoccupations</i> (My prenatal care provider[s] was available when I had questions or concerns)	.66	.79
<i>Je pouvais toujours rejoindre quelqu’un au bureau/à la clinique si j’avais besoin de quelque chose</i> (I could always reach someone in the office/clinic if I needed something)	.76	.75
<i>Je pouvais rejoindre mon (mes) fournisseur(s) de soins prénataux par téléphone au besoin</i> (I could reach my prenatal care provider[s] by phone when necessary)	.68	.78
Factor 6: Support and Respect (12 items) Cronbach’s alpha = .92		
<i>Mon (mes) fournisseur(s) de soins prénataux me respectait</i> (My prenatal care provider[s] respected me)	.54	.92
<i>Mon (mes) fournisseur(s) de soins prénataux respectait mes connaissances et mon expérience</i> (My prenatal care provider[s] respected my knowledge and experience)	.64	.91
<i>Mes décisions étaient respectées par mon (mes) fournisseur(s) de soins prénataux</i> (My decisions were respected by my prenatal care provider[s])	.60	.92
<i>Mon (mes) fournisseur(s) de soins prénataux était patient</i> (My prenatal care provider[s] was patient)	.69	.91
<i>J’ai été soutenue par mon (mes) fournisseur(s) de soins prénataux pour faire ce que j’estimais être approprié pour moi</i> (I was supported by my prenatal care provider[s] in doing what I felt was right for me)	.55	.92
<i>Mon (mes) fournisseur(s) de soins prénataux me soutenait</i> (My prenatal care provider[s] supported me)	.71	.91

(Continued)

TABLE 4. Items on Each Factor, Corrected Item–Total Subscale Correlations, and Cronbach’s Alpha if Item Deleted From Subscale (Continued)

Factor (Subscale) Items	Corrected Item-Total Subscale Correlation	Cronbach’s Alpha if Item Deleted
<i>Mon (mes) fournisseur(s) de soins prénataux m’accordait toute son attention lorsque je parlais</i> (My prenatal care provider[s] paid close attention when I was speaking)	.74	.91
<i>Mes préoccupations étaient prises au sérieux</i> (My concerns were taken seriously)	.71	.91
<i>J’avais le contrôle des décisions prises au sujet de mes soins prénataux</i> (I was in control of the decisions being made about my prenatal care)	.64	.91
<i>Mon (mes) fournisseur(s) de soins prénataux soutenait mes décisions</i> (My prenatal care provider[s] supported my decisions)	.77	.91
<i>Je me sentais à l’aise avec mon (mes) fournisseur(s) de soins prénataux</i> (I was at ease with my prenatal care provider[s])	.74	.91
<i>Mes valeurs et mes convictions étaient respectées par mon (mes) fournisseur(s) de soins prénataux</i> (My values and beliefs were respected by my prenatal care provider[s])	.73	.91

found a statistically significant and positive association between quality of prenatal care and both family income and education level; total family income was one of two predictors of high quality prenatal care (Kandasamy, 2013). Further testing should include more diverse samples of Francophone women who represent various socioeconomic and cultural groups. Another limitation is that the PESPC has not been validated in French; however, no instrument was available and validated in French that was appropriate for testing construct validity of the French language QPCQ using a hypothesis-testing approach.

The QPCQ reflects essential elements of good quality prenatal care identified in a framework for quality maternal and newborn care recently introduced by Renfrew et al. (2014). This framework includes five components: practice categories, organization of care, philosophy of care, values of care providers, and care provider characteristics; the authors suggest that the essential aspects within these domains are good quality clinical care, communication, education, information, and respect (Renfrew et al., 2014). The QPCQ similarly emphasizes clinical and interpersonal processes of care. Items reflective of good clinical care include “I received adequate information about alcohol use during pregnancy” and “I was screened adequately for potential problems with my

pregnancy.” Interpersonal processes are captured in items such as “My decisions were respected by my prenatal care provider(s),” “My prenatal care provider(s) took time to ask about things that were important to me,” and “The results of tests were explained to me in a way I could understand.” Although content, construct, and convergent validity of the QPCQ have been confirmed (Heaman et al., 2014), its congruence with the essential aspects of quality care identified through a comprehensive, multimethod literature review further attests to its content validity.

The development and testing of the QPCQ satisfies the need for a psychometrically sound measure of prenatal care quality (Heaman et al., 2014). Its translation into French and subsequent testing of this version expands the use of the QPCQ by having it available in a second language. The QPCQ can be used to compare and contrast quality across settings and populations, and to determine relationships between quality of care and various maternal and child health outcomes (Heaman et al., 2014). As suggested by Alexander and Kotelchuck (2001), these should include outcomes other than those typically examined (e.g., birth weight), with the postnatal health status of the mother and infant, health-related behaviors, and health care use being particularly worthy of investigation. A score can be calculated for the total QPCQ and for each of the subscales (Heaman et al., 2014). The QPCQ was developed to be applicable to all women who receive prenatal care and can be completed after 36 weeks of pregnancy or within the first 6 weeks’ postpartum (Heaman et al., 2014).

CONCLUSION

The French language QPCQ is a valid and reliable measure that will be useful to both researchers and those interested in assuring or improving the delivery of quality prenatal care. Future studies should include assessment of alternative wording for the one item in the Sufficient Time subscale that performed poorly and also validity and reliability testing of this instrument in diverse populations.

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Acknowledgments. This study was funded by an operating grant from the Canadian Institutes of Health Research (MOP–84427). Dr. Heaman received career support from a CIHR Chair in Gender and Health award.

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We wish to acknowledge the other QPCQ Research Team members' contributions to the conceptualization of the primary study and the development and testing of the original instrument: Michael Helewa, Eileen Hutton, Patti Janssen, Dawn Kingston, Suzanne Tough, and David Young. We thank the women who participated in the study, the research assistants (Christina Cantin, Melanie Dostaler, Mona Martin, and Rachel Merrithew), and l'Hôpital Montfort's Family Birthing Centre nurses and staff who assisted with participant recruitment and data collection in Ottawa.

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