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Research Article

Assessment of Professional Empowerment among Midwifery Graduates in Chile

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Abstract

Background: Professional midwives help reducing global maternal and infant mortality. Midwives properly educated, supported and regulated to international standards have the ability to deliver almost 90% of the services needed for maternal and newborn health. Midwife empowerment is an essential component to produce excellent patient health outcomes.

Objectives: To assess professional empowerment among the graduates of the School of Midwifery, University of Chile during the years 2005-2013. Specifically, this study aimed to 1) assess the scale reliability after translation to Spanish, analysis by 2) dimension according to type of curriculum Content Based (CB) versus competency-based curriculum (CBE), work position and health sector, 3) type of curriculum and items of the scale, 4) work position by item of the scale and 5) health sector by item of the scale.

Design: A cross-sectional study design was selected.

Settings: Recent graduates from the University of Chile, School of Midwifery from September to October 2014.

Participants: 453 graduates from the midwifery education program at the University of Chile between the years of 2005 and 2013 were invited to participate. Participation was restricted to graduates who were practicing midwives. One hundred and forty-seven surveys were completed (response rate= 31%); 123 (84%) graduates of the CB curriculum and 24 (16%) graduates of the CBE.

Methods: An online questionnaire was created using an adaptation of The Perceptions Midwifery Empowerment Scale. All questions were rated on a Likert scale. The survey was sent electronically through e-mail. Results were analyzed using State 14.0.

Results: The translated version showed a high reliability coefficient (αCronbach= 0.86). No significance was established according to type of curriculum, professionals working in PHC and public sector felt more autonomous and advocate empowering women.

Conclusion: More effort has to be done to improve midwives self-confidence and steam to fulfill an autonomous role

Keywords: Autonomy; Education; Empowerment; Midwifery role; Midwives

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Introduction

Empowerment is a dynamic process of acquiring power in order to achieve a specific goal [1]. Professional empowerment is a term that is related to an individual's job autonomy and feelings of competence to perform work-related tasks [2]. Empowerment is a central component to producing excellent health outcomes and job satisfaction among midwives [2,3]. In this study, levels of empowerment were assessed using recent graduates of the University of Chile, School of Midwifery. Empowerment levels of graduates of the content curriculum were compared to those of the new competency-based curriculum to assess if the competency-based curriculum better prepares Chilean midwives for the workforce. Midwives have been identified as an important group to help reduce global maternal and infant mortality [4]. The midwifery profession focuses on reproductive, maternal, and neonatal care [3]. The State of the World Report of Midwifery Report [4] proposes that midwives that are properly educated supported, and regulated to international standards have the ability to deliver almost 90% of the services needed for maternal and newborn health. Thus, midwives must have the influence and autonomy to make safe and informed decisions. Empowerment is essential for the midwives to perform their duties correctly and consistently [3]. Three major domains have been identified that can impact midwifery empowerment: autonomous practice, effective leadership, and patient-centered practice [2,5-7]. It has been observed that midwifery practice achieves optimum health outcomes in settings in which services is valued, respected, community-based, and integrated into a functioning health system [3].

Autonomous practice is a core tenet of midwife empowerment [2]. Midwifery autonomy is defined as having the freedom to make clinical decisions within the professional and legal confines of practice. The autonomous practice of midwives is impacted by perceptions of personal power and control [2,7]. Personal power refers to a professional's beliefs in his/her ability to provide quality care for

her patients [2], often called self-efficacy [8]. Whereas, control in the work environment can be defined as having access to the necessary tools that facilitate their professional development, and feeling capable of providing the services is necessary to for completing work-related tasks [2,5,7]. The organization and environment in which the professionals operate play a distinct role in their personal empowerment [9]. The working conditions that facilitate their development are access to power, information, resources, support, and opportunities to learn and grow [10]. For example, medicalized childbirth can be an external threat to the autonomy of midwives [11]. Effective management is demonstrated by leaders or managers that communicate expectations, changes, and appreciation with midwives [11]. Under appreciation from the medical team and leadership has been cited as a major barrier to midwife empowerment [12], as well as with the nursing profession [13]. These environments lead to less autonomy for midwives and lower job satisfaction rates [5,7]. Leadership that can promote personal professional development by fostering an environment where professionals are involved in the decision making and free of restrictive control can achieve high rates of satisfaction among employees [7].

Health studies report that the quality and safety of patient care is directly related to the degree of professional empowerment [14-16]. Higher levels of empowerment have been correlated with higher patient satisfaction [12]. This could be the result of satisfied midwives tending to be more adaptable and more receptive to change. Furthermore, confidence in professional skills can help midwives provide services with high sensitivity and intercultural respect [17]. Most importantly, empowered health professionals strengthen their own development by feeling comfortable discussing healthcare options with their patients and consulting colleagues when making decisions [1].

In Chile, Binfa et. al., found that midwifery professionals employed in hospital maternity units, do not feel empowered enough to make decisions in an extremely hierarchical and medicalized health system [18]. Moreover, professionals working at Primary Health Care (PHC) clinics demonstrated a lack of the necessary skills to address the prevalent and complex psychosocial problems affecting most women [19]. These findings highlight the need for midwives to understand the scope of their professional performance and the role their role in the larger multidisciplinary health team. In addition, midwives must understand how the power they possess is transmissible to women, families and communities [20]. Previous research has found that education is the precursor to empowerment [3]. Midwives who have been adequately trained consistently have better birth outcomes than those who have not [4,21]. Thus, the quality of midwifery education provides the foundation for professional empowerment. By training professionals to have a positive impact on the places in which they work, educational institutions are crucial to the development and transformation of healthcare models. Midwifery education has undergone a paradigm shift [6]. At the beginning of the 20th century, training for healthcare professionals was problems-based. In the present, Matthews et al., has shown that problem-based training is insufficient to foster the creation of skills that healthcare professionals need. Therefore, training is now centered on the priorities of the patient and population. This has created a need for current professionals to understand how to improve the performance of health systems by adapting basic skills for specific contexts on the basis of global knowledge [6].

The School of Midwifery of the University of Chile in 2006 started with a process of curriculum innovation. This new competency-based curriculum focuses on the student, and uses various methodological and evaluative strategies to train professionals in responding to adverse situations. In accordance with the new restructured curriculum, the school also organized a matrix of responsibilities, and defined learning outcomes for these. Therefore, the purpose of this study was to assess professional empowerment among the graduates of the School of Midwifery, University of Chile during the years 2005-2013. Specifically, this study aimed to 1) Assess the scale reliability after translation to Spanish, 2) Analysis by dimension according to type of curriculum Content Based (CB) versus competency-based curriculum (CBE), work position and health sector, 3) Type of curriculum and each item of the scale, 4) Work position by each item of the scale and 5) Health sector by each item of the scale.

Methods

This cross-sectional study was conducted between September and October 2014. The structured survey investigated the conditions that are important for professional empowerment of midwives through an adaptation of the Perceptions Midwifery Empowerment Scale (PEMS). PEMS is an established 22-question survey used to measure midwifery autonomy. Matthews et. al., designed this tool based on a set of conditions important for the development of empowerment including specific academic and theoretical knowledge about the performance area, acquiring tools needed to exercise the professional role in the advocacy and empowerment of women in labor, as well as recognition of the midwife as a valuable team member in the multidisciplinary medical team [6]. Therefore it is a useful tool to measure the perception of midwives on their practice and environment. The instrument was translated by the backward-translation technique. The scale was first translated into Spanish by the research team, and then translated back into English by a native speaker. Later it was tested in a convenience sample of ten midwives working in the Maternity Unit at the Clinical Hospital of the University of Chile, were no change was reported. The survey was sent electronically via email, to midwifery graduates from an alumni database from the Graduate Committee at School of Midwifery, University of Chile. The survey was self-administered after obtaining informed consent, and approved by the Ethics Committee for Research in Human Beings. Faculty of Medicine, University of Chile. Project N° 131-2014, prior to conduct the study. Participation in the study was restricted to currently practicing midwives who graduated from the School of Midwifery at University of Chile between 2005 and 2013. Alumni without an email address in their contact information, had an inactive email address, or did not return their informed consent was excluded from the study. A total of 453 surveys were emailed to potential participants.

Midwifery empowerment was assessed using the 22-item PEMS scale. Finally one question was eliminated because in Chile there are no Midwives led care units (MLCU), thus obtaining a 21-item scale. Each question was rated on a Likert scale with 1 representing "strongly disagree" to 5 representing "strongly agree." All negative statements were recoded to reflect positive assertions of empowerment in the analysis phase. Participants were given a composite score that summed their responses to the 21-items. The scale has a range from 21-105. A higher score reflects higher reported levels of midwifery autonomy. Based on the main conditions that facilitate empowerment of midwives [2,5,7] mentioned above, a subdivision of the questions

was grouped into three different domains. The first domain was autonomous practice that included eight questions related to acknowledgement of midwives by the multidisciplinary medical team, control over personal professional development, and adequate access to resources (questions 6, 13, 15, 16, 18, 19, 20 and 21). The second domain was effective leadership, which included six questions associated with the support and recognition by superiors (questions 1, 4, 5 were contemplated, 7, 8 and 9). Finally, the third domain was patient-centered practice, which included seven questions pertaining to a midwife's ability to empower women, interpersonal skills, and knowledge to implement the professional role and support of colleagues (questions 2, 3, 10, 11, 12, 14 and 17).

The internal reliability of the test was assessed using the Cronbach's alpha. The dimensional scores were described by percentiles, means and standard deviation. And they were compared by the condition of recently graduated or not, level of attention and public and private sector through the Kruskall Wallis test. The distributions of the answers of each question were compared by the same conditions mentioned above, by Fisher's exact independence test. A significance level of 5% was used with the Stata 14.0 program.

Results

Information was obtained from 147 graduates from the University of Chile; their main characteristics in terms of type of curriculum, working position and private or public sector are described in table 1.

Variables	N (%)
Type of Curriculum	
• CBE	26 (17.7)
• Content	121 (82.3)
Work setting	
• PHC	63 (42.9)
• Secondary	4 (2.7)
• Tertiary	66 (44.9)
• Other	14 (9.5)
Health Sector	
• Public	102 (69.4)
• Privat	45 (30.6)

Table 1: Main characteristics of participants.

The internal reliability of the translated test was assessed using the Cronbach's alpha showing a high level of reliability (α= 0.86). Each dimensions of the scale was analyzed according to the type of curriculum; Competency based education (CBE) or Content based (CB), work position and health sector. This was done considering that the "autonomous practice" dimension in the validated scale included 8 questions, where the theoretical score could vary from 8-40 points; "Effective management" dimension that included 6 questions with a score that could vary from 6-30 points and the dimension "woman centre care" with 6 questions that could vary from 6-30 points. Table 2 shows the results of this analysis where it is highlighted that there are no significant differences in the mean score obtained in each of the dimension when analyzed according to the type of curriculum; it is observed that professionals working in PHC and those at the public sector have a significantly higher score in relation to the " woman centre care " dimension. The mean score for the autonomous practice was 33.6 ± 3.7, the coefficient of variability was 11.1%, showing a high homogeneity with respect to this dimension, probably due to a common characteristic among the respondents. When disaggregated by type of curriculum it was found that this dimension has an average for the CB curriculum of 33.7 ± 3.5, while in the CBC is 33.8 ± 4.7, this difference was not significant (p = 0.8572). Effective management presented a mean score of 24.8 ± 4.8, the coefficient of variability was 19.2%, which accounts again for a high homogeneity with respect to this dimension, and probably this dimension is also a common characteristic among the participants. When disaggregated by type of curriculum it was found that this dimension has an average for the CB curriculum of 24.8 ± 4.9, while in the new one it is 27.7 ± 3.8, this difference was not significant (p = 0.4786).

The mean score for the woman centred care was 31.8 ± 2.7, the coefficient of variability was 8.4%, showing a high homogeneity with respect to this dimension, probably due to the same reason mentioned for the others dimension. When disaggregated by type of curriculum, it was found a mean score for the CB curriculum of 31.9 ± 2.5, while in the CB it is 31.2 ± 3.3, this difference was not significant (p = 0.4006) (Table 2). The high homogeneity found among the respondents could be attributed to the fact that the CBE curriculum aimed developing all these dimensions time-effectively, similarly to the effect produce by the exposure to professional practice, among those who were trained with the CB curriculum.

An analysis of the scale was carried out in each of its items with the variables considered in this analysis. In relation to the variable type of curriculum it was observed that the graduates trained in a non-innovated curriculum (CB) felt more valued by their managers, no other significance was found regarding the others items (Table 3).

The professionals who work in Primary Health Care felt more empowered to defend the rights of women and their newborns, they also felt that their training was adequate, empower women more and feel their recognition to a greater degree. At the secondary level of attention, they perceive that they have greater resources to grant their attention, they feel greater recognition by the medical professional and that they are more listened to. At the tertiary level, they believe that they have adequate training (Table 4).

Regarding whether the professionals work in the public or private health sector, it was observed that in the public sector there is a perception that they have more skills to perform their work, they empower women more, they feel more autonomy in their work and feel more listened (Table 5).

Discussion

The first School of Midwifery in Chile was created in 1834; it was a two-year direct entry course mainly clinical, with the purpose to prepare midwives who could assist deliveries. In 1896 there was a relevant change to midwifery education when the Ministry of Education gave formal tuition and responsibility to the Rector of the University of Chile, thereafter recognizing midwifery education at the University level, which explains and reflects the relevance that our students have played for national development. During 1930 the program was extended to three years including one year of internship in maternity care. In 1959 the attainment of a bachelor's degree was required to apply. It was not until 1960 that the first course for lecturers in midwifery was developed by the WHO-PAHO and sponsored by the Faculty of Medicine at the University of Chile. In 1971 the study program increased to a four-year programmed [22]. Since 1995, it has been a five-year program leading to a 'licentiate degree'.

	N	min	p25	p50	p75	max	mean	sd	cv*	p-value
Dimensión 1										
Curriculum type										
Content	121	24	31	33	36	40	33.7	3.5	10.5	
CBE	26	24	31	34	38	40	33.8	4.7	13.9	0.8572
Total	147	24	31	33	37	40	33.7	3.7	11.1	
Work position										
PHC	63	24	32	33	37	40	34.1	3.5	10.2	ref
Secondary	4	30	32.5	35	37	39	34.8	3.7	10.6	0.7230
Tertiary	66	24	31	34	37	40	33.9	3.6	10.7	0.7390
Other	14	24	28	29.5	35	40	30.8	4.6	14.8	0.0030
Health Sector										
Private	45	24	31	33	37	40	33.4	4.1	12.2	
Public	102	24	31	33.5	37	40	33.8	3.6	10.7	0.5083
Dimensión 2										
Curriculum type										
Content	121	6	23	26	28	30	24.8	5.0	20.0	
CBE	26	19	22	25	28	30	24.7	3.8	15.4	0.9284
Total	147	6	23	26	28	30	24.8	4.8	19.2	
Work position										
PHC	63	6	23	27	29	30	25.3	5.0	19.5	ref
Secondary	4	22	23	24.5	27	29	25.0	2.9	11.8	0.8870
Tertiary	66	10	22	25	28	30	24.3	4.6	18.8	0.2360
Other	14	9	23	23.5	27	30	24.1	5.2	21.6	0.3670
Health Sector										
Private	45	9	22	25	28	30	24.2	4.6	19.2	
Public	102	6	23	26	29	30	25.0	4.8	19.2	0.3188
Dimensión 3										
Curriculum type										
Content	121	23	30	32	34.0	35.0	31.9	2.5	7.9	
CBE	26	23	29	31.5	34.0	35.0	31.2	3.3	10.5	0.2540
Total	147	23	30	32	34.0	35.0	31.8	2.7	8.4	
Work position										
PHC	63	23	31	33	34	35	32.4	2.3	7.2	ref
Secondary	4	27	28	30.5	32.5	33	30.3	2.8	9.1	0.1060
Tertiary	66	24	30	32	33	35	31.6	2.5	8.0	0.0750
Other	14	23	27	31	33	35	30.1	3.9	12.8	0.0030
Health Sector										
Private	45	23	30	31	33	35	30.9	3.2	10.4	
Public	102	23	31	32	34	35	32.2	2.3	7.2	0.0058

Table 2: Mean score analysis by dimension according to type of curriculum, work position and health sector.

*Coefficient of variability.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	P value
1.I am valued by my manager CBE Content	42.31 51.24	30.77 37.19	26.92 5.79	- 4.13	- 1.65	0.039
2. I am an advocate for birthing women. CBE Content	65.38 78.51	30.77 17.36	3.85 4.13	- -	- -	0.252
3. I do not have the skills required to carry out my role. CBE Content	61.54 74.38	34.62 20.66	- 0.83	- 4.13	3.85 -	0.120
4. I have the back-up of my manager CBE Content	30.77 49.59	46.15 38.84	23.08 6.61	- 3.31	- 1.65	0.079
5I am not recognised for my contribution to the care of birthing women by my manager CBE Content	46.15 45.45	30.77 28.10	19.23 11.57	3.85 9.92	- 4.96	0.632
6. I have adequate access to resources for birthing women in my care. CBE Content	26.92 19.83	38.46 48.76	23.08 17.36	3.85 10.74	7.69 3.31	0.439
7. I do not have a supportive manager CBE Content	42.31 54.55	34.62 33.06	23.08 4.96	- 4.96	- 2.48	0.052
8. I have effective communication with management CBE Content	34.62 43.80	46.15 39.67	19.23 6.61	- 6.61	- 3.31	0.184
9. I am not informed about changes in my organisation that will affect my practice CBE Content	23.08 23.97	50.00 45.45	23.08 10.74	3.85 15.70	- 4.13	0.246
10. I am adequately educated to perform my role CBE Content	53.85 58.68	30.77 35.54	11.54 3.31	3.85 1.65	- 0.83	0.347
11.I have support from my colleagues CBE Content	50.00 53.72	38.46 35.54	7.69 8.26	3.85 2.48	- -	0.928
12. I am able to say no when I judge it to be necessary CBE Content	42.31 46.28	38.46 46.28	15.38 4.13	3.85 3.31	- -	0.167
13I do not know what my scope of practice is CBE Content	69.23 65.29	19.23 26.45	7.69 5.79	3.85 1.65	- 0.83	0.681
14.I am accountable for my practice CBE Content	84.62 85.12	15.38 14.88	- -	- -	- -	0.575
15.I am recognised as a professional by the medical profession CBE Content	50.00 61.16	38.46 28.10	7.69 8.26	3.85 1.65	- 0.83	0.586
16.I have control over my practice CBE Content	57.69 60.33	34.62 36.36	- 1.65	7.69 1.65	- -	0.359
17.I empower birthing women through my practice CBE Content	53.85 50.41	30.77 38.84	15.38 9.92	- 0.83	- -	0.653
18.I do not have adequate access to resources for staff education and training CBE Content	38.46 22.31	30.77 45.45	23.08 14.88	3.85 14.88	3.85 2.48	0.136
19.I have autonomy in my practice CBE Content	42.31 37.19	42.31 37.19	11.54 13.22	3.85 3.31	- -	0.963
20. I am not listened to by members of the multidisciplinary team. CBE Content	50.00 42.15	30.77 47.11	19.23 8.26	- 2.48	- -	0.220
21.I am recognised for my contribution to the care of birthing women by the medical profession CBE Content	46.15 38.84	34.62 47.11	19.23 12.40	- 0.83	- 0.83	0.592

Table 3: Analysis by type of curriculum and each item of the scale.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	P value
I am valued by my manager						
PHC	55.56	30.16	9.52	3.17	1.59	
Secondary	100.00	-	-	-	-	0.329
Tertiary	42.42	40.91	12.12	4.55	-	
Other	42.86	50.00	-	-	7.14	
2. I am an advocate for birthing women.						
PHC	80.95	17.46	1.59	-	-	
Secondary	25.00	50.00	25.00	-	-	
Tertiary	77.27	19.70	3.03	-	-	
Other	64.29	21.43	14.29	-	-	0.044
3. I do not have the skills required to carry out my role.						
PHC	74.60	22.22	-	1.59	1.59	
Secondary	100.00	-	-	-	-	
Tertiary	74.24	21.21	1.52	3.03	-	0.171
Other	42.86	42.86	-	14.29	-	
4. I have the back-up of my manager						
PHC	49.21	38.10	7.94	3.17	1.59	
Secondary	100.00	-	-	-	-	0.392
Tertiary	40.91	42.42	13.64	3.03	-	
Other	42.86	50.00	-	-	7.14	
5.I am not recognised for my contribution to the care of birthing women by my manager PHC						
Secondary	57.14	25.40	7.94	6.35	3.17	
Tertiary	25.00	25.00	-	25.00	25.00	
Other	39.39	31.82	13.64	12.12	3.03	0.067
	28.57	28.57	35.71	-	7.14	
6.I have adequate access to resources for birthing women in my care.						
PHC	11.11	44.44	23.81	12.70	7.94	
Secondary	-	75.00	25.00	-	-	
Tertiary	30.30	50.00	9.09	9.09	1.52	0.032
Other	28.57	35.71	35.71	-	-	
7. I do not have a supportive manager						
PHC	55.56	31.75	7.94	1.59	3.17	
Secondary	75.00	25.00	-	-	-	
Tertiary	48.48	33.33	10.61	7.58	-	0.588
Other	50.00	42.86	-	-	7.14	
8. I have effective communication with management.						
PHC	46.03	39.68	7.94	1.59	4.76	
Secondary	50.00	25.00	-	25.00	-	
Tertiary	37.88	43.94	9.09	9.09	-	0.286
Other	42.86	35.71	14.29	-	7.14	
9. I am not informed about changes in my organisation that will affect my practice						
PHC	26.98	49.21	11.11	9.52	3.17	
Secondary	-	50.00	25.00	25.00	-	
Tertiary	24.24	42.42	12.12	18.18	3.03	0.745
Other	14.29	50.00	21.43	7.14	7.14	
10. I am adequately educated to perform my role						
PHC	61.90	33.33	3.17	1.59	-	
Secondary	-	75.00	-	25.00	-	
Tertiary	60.61	34.85	3.03	1.52	-	0.011
Other	42.86	28.57	21.43	-	7.14	
11.I have support from my colleagues						
PHC	60.32	30.16	6.35	3.17	-	
Secondary	50.00	25.00	25.00	-	-	
Tertiary	45.45	45.45	9.09	-	-	0.087
Other	57.14	21.43	7.14	14.29	-	
12. I am able to say no when I judge it to be necessary						
PHC	49.21	44.44	1.59	4.76	-	
Secondary	50.00	50.00	-	-	-	
Tertiary	42.42	46.97	9.09	1.52	-	0.421
Other	42.86	35.71	14.29	7.14	-	
13.I do not know what my scope of practice is						
PHC	74.60	15.87	6.35	1.59	1.59	
Secondary	50.00	25.00	25.00	-	-	
Tertiary	62.12	31.82	4.55	1.52	-	0.187
Other	50.00	35.71	7.14	7.14	-	

14.I am accountable for my practice						
PHC	87.30	12.70	-	-	-	
Secondary	75.00	25.00	-	-	-	
Tertiary	84.85	15.15	-	-	-	0.573
Other	78.57	21.43	-	-	-	
15.I am recognised as a professional by the medical profession						
PHC	60.32	28.57	9.52	-	1.59	
Secondary	75.00	25.00	-	-	-	
Tertiary	62.12	33.33	1.52	3.03	-	0.013
Other	35.71	21.43	35.71	7.14	-	
16.I have control over my practice						
PHC	63.49	34.92	1.59	-	-	
Secondary	25.00	75.00	-	-	-	
Tertiary	59.09	36.36	1.52	3.03	-	0.227
Other	57.14	28.57	-	14.29	-	
17.I empower birthing women through my practice						
PHC	71.43	25.40	3.17	-	-	
Secondary	25.00	75.00	-	-	-	
Tertiary	34.85	45.45	18.18	1.52	-	
Other	42.86	42.86	14.29	-	-	0.001
18.I do not have adequate access to resources for staff education and training						
PHC	28.57	38.10	17.46	14.29	1.59	
Secondary	25.00	50.00	25.00	-	-	
Tertiary	22.73	46.97	15.15	12.12	3.03	0.978
Other	21.43	42.86	14.29	14.29	7.14	
19.I have autonomy in my practice						
PHC	52.38	38.10	7.94	1.59	-	
Secondary	50.00	50.00	-	-	-	
Tertiary	28.79	51.52	15.15	4.55	-	0.051
Other	14.29	50.00	28.57	7.14	-	
20.I am not listened to by members of the multidisciplinary team.						
PHC	53.97	41.27	4.76	-	-	
Secondary	75.00	25.00	-	-	-	
Tertiary	39.39	45.45	10.61	4.55	-	0.005
Other	7.14	57.14	35.71	-	-	
21.I am recognised for my contribution to the care of birthing women by the medical profession						
PHC	47.62	39.68	11.11	1.59	-	
Secondary	50.00	50.00	-	-	-	
Tertiary	39.39	50.00	10.61	-	-	0.011
Other	7.14	42.86	42.86	-	7.14	

Table 4: Analysis of work position by each item of the scale.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	P value
I am valued by my manager						
Public	54.90	30.39	9.80	3.92	0.98	0.200
Private	37.78	48.89	8.89	2.22	2.22	
2. I am an advocate for birthing women.						
Public	80.39	17.65	1.96	-	-	
Private	66.67	24.44	8.89	-	-	0.077
3. I do not have the skills required to carry out my role.						
Public	74.51	23.53	-	0.98	0.98	0.049
Private	66.67	22.22	2.22	8.89	-	
4. I have the back-up of my manager						
Public	48.04	39.22	8.82	2.94	0.98	
Private	42.22	42.22	11.11	2.22	2.22	0.900
5I am not recognised for my contribution to the care of birthing women by my manager Public	51.96	28.43	9.80	5.88	3.92	
Private	31.11	28.89	20.00	15.56	4.44	0.056
6.I have adequate access to resources for birthing women in my care.						
Public	14.71	49.02	19.61	11.76	4.90	0.066
Private	35.56	42.22	15.56	4.44	2.22	
7. I do not have a supportive manager						
Public	49.02	36.27	9.80	2.94	1.96	0.408
Private	60.00	26.67	4.44	6.67	2.22	

8. I have effective communication with management Public Private	42.16 42.22	43.14 35.56	7.84 11.11	3.92 8.89	2.94 2.22	0.648
9. I am not informed about changes in my organisation that will affect my practice Public Private	25.49 20.00	46.08 46.67	9.80 20.00	14.71 11.11	3.92 2.22	0.526
10. I am adequately educated to perform my role Public Private	58.82 55.56	36.27 31.11	2.94 8.89	1.96 2.22	- 2.22	0.257
11.I have support from my colleagues Public Private	54.90 48.89	36.27 35.56	6.86 11.11	1.96 4.44	- -	0.589
12. I am able to say no when I judge it to be necessary Public Private	47.06 42.22	45.10 44.44	4.90 8.89	2.94 4.44	- -	0.715
13I do not know what my scope of practice is Public Private	66.67 64.44	24.51 26.67	5.88 6.67	1.96 2.22	0.98 -	0.986
14.I am accountable for my practice Public Private	86.27 82.22	13.73 17.78	- -	- -	- -	0.344
15.I am recognised as a professional by the medical profession Public Private	57.84 62.22	31.37 26.67	7.84 8.89	1.96 2.22	0.98 -	0.943
16.I have control over my practice Public Private	59.80 60.00	37.25 33.33	1.96 -	0.98 6.67	- -	0.247
17.I empower birthing women through my practice Public Private	57.84 35.56	36.27 40.00	4.90 24.44	0.98 -	- -	0.002
18.I do not have adequate access to resources for staff education and training Public Private	26.47 22.22	38.24 53.33	18.63 11.11	14.71 8.89	1.96 4.44	0.341
19.I have autonomy in my practice Public Private	44.12 24.44	46.08 44.44	6.86 26.67	2.94 4.44	- -	0.00
20.I am not listened to by members of the multidisciplinary team. Public Private	48.04 33.33	45.10 42.22	6.86 17.78	- 6.67	- -	0.009
21. I am recognised for my contribution to the care of birthing women by the medical profession Public Private	41.18 37.78	46.08 42.22	11.76 17.78	0.98 -	- 2.22	0.513

Table 5: Analysis of health sector by each item of the scale.

Currently, after a five year of a direct entry academic program, trainees take the responsibility for enhancing and improving women's health and quality of life along their life-cycle. Newborn health is also a core task for our profession. Interventions aimed at improving their health include family and community. To accomplish these tasks, activities such as prevention, promotion, treatment and rehabilitation are constantly performed. Therefore, the active role played by midwives inside the health team is within an ethical, legal and management framework [23]. Currently midwives work nationally and in the different levels of the National Health System, organized in levels of assistance which attends almost 85% of the Chilean population, but also working in the private system attending the rest (15%) of the Chilean population [24].

In the present study, the perception of professional empowerment was assessed using the PEMS scale. This scale includes 21 questions which were studied globally and follows the 3 previously established domains. The results across these domains provide information about how midwives perceive the development of their practice and environment. The validity of the scale is enhanced by including only the conditions for empowerment that practitioners themselves have identified as important. This includes both international studies and local realities, covering areas of specific interest, and the importance of midwifery. Particularly, their relationships with women in labor, institutional support and level of skills based on practice. No difference were found according to type of curriculum, most probably because at the moment of this study there was only one cohort of graduates under that CBE, and as reported by other studies the main variable found for perceiving higher levels of empowerment, was time since graduation, as those with more years after graduation had a higher level of empowerment. However it is to note that graduates from the CBE curriculum, showed the same level of empowerment compared with those from the CB curriculum having more time of practicing.

Interesting and important, the main findings in this study showed differences between perceptions of empowerment among working

settings; midwives working in PHC reported a higher perception, reflecting self- recognition of their practicing autonomous role, in line to their real autonomous role; today midwives working in PHC cover over 95% of the activities; related to the Women´s Health Program [25], therefore taking under their own responsibility all antenatal control (97,6%), family planning (99,8%), gynecological control including the menopausal transition [26], The Chilean midwife can be seen as a key person in women´s health care [27,28]. Midwives working in hospital settings and in the private health sector reported lower levels of empowerment, accordingly to the Public Health System organization; in the second (ambulatory clinics) and tertiary levels(labor ward, postpartum and neonatology units) midwives work under medical supervision, therefore with less autonomy as reported by the participants in this study, similar to the midwifery role in the private system. Interesting to note is that Chile shows a highly medicalized midwifery model of care [29], with very high rates of CS and obstetric procedures as reported recently [30].

Limitations of the study include the unknown number of people who periodically maintained, used and checked emails registered in the database. In addition, since the oldest data on record are nine, it makes the survey not reach all recipients. The response rate was 35.5%, lower than that obtained by Mathews et al., whose response rate was closer to 50%. Yet the number of surveys received was higher than the minimum necessary [6]. Finally, this research suggests that it would be useful to extend the study to midwives graduating from other institutions, those with more years after graduation, those who perform strongly in other regions, and future graduates of the University of Chile. This further research would help to establish the concordance of the results obtained so far, comparing the empowerment of generations trained with the old versus the new curriculum, and with a greater number of graduates who have been trained under the newest curriculum.

Conclusion

Having a reliable instrument for assessing professional empowerment, will be useful for the School of Midwifery, University of Chile, providing reliable data about the empowerment they have in their professional role after graduating. Using this data, they can make the necessary changes to their curriculum to better empower future generations of graduates. Results from this study should be taken as a baseline for following up future cohorts of graduates with the CBE to help strengthen areas where weaknesses are detected with respect to the professional empowerment in order to develop methodological strategies during training to help improve these shortcomings. Although not an objective of this study, findings suggest strongly improving midwives´ empowerment in hospital settings, by strengthening a more autonomous role in advocating for women´s reproductive rights and promoting normal birth.

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Author's contributions

LB, TL and EJ conceived the study and adapt the instrument. TL and EJ led the data collection GC conducted data analysis. LB, LP and GC interpreted the results and wrote the paper. All authors reviewed and approved the revised final version.

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Conflict of Interest

The authors report that there is no conflict of interest.

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