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Spiritual needs throughout childbirth: a cross-sectional study among working women at the largest university in Brunei

Ahmad Shamil Haji Mohd Adnan[1], Hanif Abdul Rahman[2], Sharimawati Sharbini[2, 3], and Khadizah H. Abdul-Mumin[2, 3]*

[1] Evyd Technology, Mukim Sengkurong, Brunei Darussalam

[2] PAPRSB Institute of Health Sciences, Universiti Brunei, Gadong, Brunei Darussalam

[3] School of Nursing and Midwifery, La Trobe University, Melbourne, Australia

*Correspondence: Khadizah H. Abdul-Mumin. Address: PAPRSB Institute of Health Sciences, Universiti Brunei, Gadong, Brunei Darussalam. Email: khadizah.mumin@ubd.edu.bn

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ABSTRACT

Introduction: : Healthcare professionals have fundamental roles in ensuring the spiritual needs of women throughout childbirth are met. This concurs with the World Health Organization's definition of health that holistically comprises of physical/biological, psychological/mental, social and spiritual aspects. This study evaluates spiritual needs throughout childbirth of women who are working in higher education setting.

Methods: Healthcare professionals have fundamental roles in ensuring the spiritual needs of women throughout childbirth are met. This concurs with the World Health Organization's definition of health that holistically comprises of physical/biological, psychological/mental, social and spiritual aspects. This study evaluates spiritual needs throughout childbirth of women who are working in higher education setting.

Results: A total 80 female staff participated in the study. Three out of the five domains of the spiritual needs scale were found to be the most frequently addressed as interpreted from the mean score. These are: "Finding meaning and purpose" 4.2 (0.6) followed by "Religious needs" 4.1 (0.7) and "Seeking peace" 4.0 (0.6). Those aged 40 and above scored 4.3 (0.8), which is significantly higher (P = 0.048) for "Finding meaning and purpose" compared to other age groups. Those who had four or more children had significantly higher spiritual needs for "Finding meaning and purpose" 4.2 (0.6) and "Seeking peace" 4.4 (0.7) compared to those having one to three children.

Conclusions: The findings of this study suggest that spiritual needs are essential during childbirth. "Finding meaning and purpose" and "Seeking peace" were identified to be the most common spiritual needs during childbirth. As women age and have more children, their spiritual needs increase. This study contributes positively toward the improvement of care, particularly spiritual aspects where evidence is scarce. This study findings may be used by healthcare professionals for developing interventions or strategies to provide a better and more holistic care to women facing childbirth.

Keywords: Assessment, Brunei, Childbirth, Women, Spiritual

Introduction

Spirituality is a complex discussion matter that has been subjected to contentious debate in the last two decades (Pargament et al., 2013). To date, the meaning and scope of spiritual needs are yet to be explicitly understood, and the importance of accomplishing the spiritual needs must be acknowledged. Substantial research evidence on spirituality, spiritual needs and spiritual care has centrally focused on chronic illnesses, terminal illness and end of life, but that concerning the

childbearing year and start of life yet remains scarce (Crowther & Hall, 2015). Childbirth is comprised of antenatal, birth and postnatal periods: this includes the beginning of life (Mahiti et al., 2015). It is a significant event, and considered as the normal life process of a woman; this period would take about 38 - 42 weeks of gestation and will continue up to six weeks or more postnatal (McKelvin et al, 2021). The overall health of woman is crucial during childbirth for it to be a fulfilling and satisfying experience (Akhtaria et al., 2023). The World Health Organisation (WHO) definition of health is not merely the absence of diseases and infirmity, but also includes holistic aspects: physical/biological, psychological/mental, social and spiritual (World Health Organization, 2006). All these aspects are interlinked and contribute to the health of mothers and the developing fetus which later contributes to the birth of a healthy baby.

Although childbirth is a normal physiologic process in a woman's life, it is a life-changing event. It involves various physical, physiological and mental changes to a woman which may require social adaptation of the women to her family and friends. The experiences of childbirth are commonly illustrated as an intense experience and deeply meaningful to the women (Aziato et al., 2016). Childbirth carries significant spiritual meaning to women, family and community. The experiences of childbirth often bring fear to women, which is often unknown to or taken for granted by the healthcare professionals (da Costa Silveira de Camargo et al., 2023). This fear differs for different women and different pregnancies of the same woman (Saisto & Halmesmäki, 2003). The fear mainly centers on not knowing what to expect throughout childbirth, which is obscured by the expectation for a normal childbirth and the birth of a normal baby (Bélanger-Lévesque et al, 2016). Women often turn to spirituality to deal with the fear and expectations of childbirth; and fulfilling their needs for a gratifying childbirth experience (Crowther & Hall, 2017).

Most of the previous studies on spirituality and childbirth are qualitative in nature and provide in-depth accounts of the convoluted relationship of childbirth as spiritual experiences. This provides insights into the importance of spirituality in and around childbirth (Crowther et. al, 2020). Spirituality is viewed as the way in which an individual organizes his or her life in relationship to making his or her life meaningful and purposeful (Aziato et al., 2016). However, the spiritual needs of women throughout childbirth remain unclear, hence, studies surrounding this topic are still an area of interest to date.

Spiritual needs may be defined as the need for humanity to search for meaning and purpose (Backes et al., 2022). Religious needs have been commonly addressed in the existing literature and closely linked as a component of the spiritual needs. However, both these needs may well be independent of each other. During childbirth, women attempt to undertake actions which are believed to be meaningful and purposeful to the maternal and fetal health (Crowther et al., 2020). For example, there are beliefs that childbirth is a gift from god or a higher being and that childbirth experiences are influenced by the power of a higher being (Heidari et al., 2014a). The women draw the higher being closer to them, and this impacts the coping mechanism throughout childbirth (Attard, 2022). The belief in a higher being and power is consistent with the religious component and has been linked to spiritual needs (Aziato et al., 2016). Provision of a faith-tolerant healthcare has been emphasized to ensure the spiritual needs of women throughout childbirth are met (Adanikin et al., 2014).

Spiritual needs are more than just that concerned with religiosity. Spiritual needs may be observed as the belief of specific actions, or specific things, or a specific being/ beings that contribute to the outcome of childbirth (Abdul-Mumin, 2015). With this in mind, spiritual needs may be viewed as a core aspect in a women's support system throughout childbirth. In particular, spiritual needs strengthen women's psychological/mental health which is transformed into the women's ability to cope with outcomes of childbirth, regardless of whether it is positive or negative. In these instances, spiritual needs are often associated with complementary alternative therapy, aligned with traditional and cultural beliefs (Abdul-Mumin, 2016). A study has reported that yoga can reduce stress of pregnancy and ensure a strong mental well-being, hence supporting their spirituality (Kusaka et al., 2016). Traditional and cultural practices include such as coconut oil (mixed with roots and herbs) added with recitation of the verses from the Qur'an. This oil is applied to the women's abdomen and around the hip area and is believed to ease the birth of the baby (Abdul-Mumin, 2015). Similarly, aromatherapy using essential oils for massage during the postnatal period was also reported to help relax the women's body (Abdul-Mumin, 2016). Often, women do not require that their spiritual needs be validated and scientifically proven. Simply addressing and respecting their spiritual needs is

more than adequate to them. Their spiritual needs are unique, and perceived as meaningful and purposeful in contributing to satisfying childbirth experiences (Crowther et al., 2020).

Spiritual needs play a crucial role in enhancing women's resolve and confidence throughout the entire childbirth process, spanning from pregnancy to the postnatal phase, a concept reinforced by their deep-seated beliefs and faith (Aziato et al., 2016). Recognizing women's spiritual requirements during childbirth is imperative for comprehensive healthcare, a fundamental aspect that all healthcare professionals, including doctors, nurses, and midwives, should prioritize (da Costa Silveira de Camargo et al., 2023). However, existing literature often relies on healthcare providers' viewpoints rather than directly seeking input from women themselves, potentially neglecting significant aspects of their spiritual journey through childbirth. This oversight risks obscuring the profound spiritual dimensions inherent in women's childbirth experiences, highlighting the need for further exploration (Bélanger-Lévesque et al., 2016). This study aims to explore women's specific spiritual needs, thereby facilitating a more comprehensive and holistic approach to care.

Materials and Methods

Ethics

Ethical approval was obtained from the Institutional Research Ethics Committee (Reference number: UBD/PAPRSBIHSREC/2019/04) on February 7, 2019. Permission to conduct the study was also given by the Registrar and Secretary of the university. Participants' personal information was kept anonymous and confidential throughout the study period to protect their identity and dignity (World Medical Association, 2013). No names or participants are mentioned in the report, and the questionnaires were kept safely in cabinet and data saved in a computer were password protected and only accessible to the researchers.

Study design and setting

A cross-sectional quantitative study was conducted from February to May 2019 which targeted female staff members of the largest university in Brunei.

Population, eligibility and recruitment

Inclusion criteria for this study were any female who had experienced childbirth, both normal and instrumental delivery, from 2013- 2019 at least once, and who was currently working at the university including academic and administrative staff. The reason for this inclusion is to determine the variations in spiritual needs of women throughout childbirth with different mode of birth. Women who had complications during birth, had still birth and neonatal death as well as chronic conditions (for example, hypertension, diabetes, anemia), were excluded. All female staff were invited to participate, eligibility criteria were clearly stated in the participation sheet and confirmed with a question on the consent page of the questionnaire. If women were not eligible but still answered the questionnaire their data were excluded. Only questionnaires from eligible and consenting women were included in the analysis.

Invitations were sent to the faculties' Assistant Registrars (ARs) via electronic mail from the AR of the research team faculty. The faculties ARs extended the invitations to their respective eligible female staff (n=373). A follow up meeting was also set with each AR to distribute the hard copy of the questionnaire. This prevented coercion due to direct contact of the research team with the participants (Manandhar & Joshi, 2020). The study participants were given one week to answer the questionnaire. The answered questionnaires were returned to the faculties' ARs in a designated box. The research team then collected the box from the faculties' ARs. The exact number of study population cannot be determined due to confidentiality of data related to marital status and pregnancy information. To ensure that the cross-sectional design achieves its purpose, communication was made with all faculties' ARs to invite all eligible participants in the study. The participation in the study, however, depended on those who consented to the study.

Data collection

Data was collected using a self-administered questionnaire for four months. The questionnaire is divided into three parts. Part one consist of questions related to demographic data; part two comprises open-ended question requiring participants to elaborate on their specific spiritual needs; and part three contains "Spiritual Needs Assessment Scale Questionnaire" (SpNQ) used with permission from the developer (Hatamipour et al., 2018a). Permission for translation, modification and validation to Brunei context was also given by the developer. The questionnaire was first piloted amongst eight female staff to check the comprehensibility and reliability of the questionnaire; data from pilot study were not used in the main study. Cronbach's alpha was also calculated on the data obtained from the main study and all domains scored

>0.67, indicating high reliability of the scales within this sample.

The SpNQ was originally developed to assess spiritual needs of cancer patients. To the best of our knowledge at the time of our study, SpNQ was the only available published questionnaire that assessed spiritual needs quantitatively. The research team was interested in using the questionnaire as most of the questions were relevant and adaptable for use in normal condition such as childbirth. Modifications were made so that irrelevant questions were either excluded or amended to better reflect on childbirth spiritual needs rather than the original version of spiritual needs of cancer patients.

The original SpNQ was in the English language. The English version of the SpNQ was translated to the Farsi version of the SpNQ and validated with good content, face, and construct validity; and internal reliability and consistency (Hatamipour et al., 2018b). The SpNQ was developed based on the conceptual framework of Bussing et al. (2010). The SpNQ questions were 38 items categorized into five domains:

Religious needs

Religious needs, if brought to attention, help an individual to adapt to their conditions through strong belief in his or her faith.

Finding meaning and purpose

Finding meaning and purpose is composed in the existential dimension of life. This is concerned with self-actualization through understanding and doing actions which are considered to be purposeful and meaningful (Hatamipour et al., 2018a).

Seeking peace

Seeking peace focuses on being free from anxiousness, having hope, strength and courage to face the given situation as well as satisfying others and achieving self-satisfaction while in the given situation.

The need to communicate

The need to communicate with friends and families is believed to be part of spirituality (Hatamipour et al., 2018b).

Support and independence

Support and independence, getting support from family members and healthcare providers throughout childbirth.

The SpNQ was translated into the Malay language by two members of the research team and another member of the research team checked with the accuracy of the translations. The Malay translations of the questions were inserted above each question asked in the English language. Content and face validity was done by requesting feedback from an expert panel (Kisut et al., 2022). Opinion was sought from a member of the research team who is a content expert in childbirth on the final Brunei version of the SpNQ. Aside from this, the Institutional Research Ethics Committee also gave suggestions and feedback on questions within the questionnaire so that they could be easily understood by lay people. As a result, one question from the domain of seeking peace was excluded: "To try to live despite my illness;" this is because childbirth experience is not an illness. The rest of the questions were kept but modified to better suit childbirth aspects, which is a normal event, instead of an illness focus. The modifications also consider languages that take into consideration sociocultural aspects of Brunei which may be different from that of Iran.

Data analysis

After data collection, the questionnaire was assessed for internal consistency and reliability. Descriptive statistics of sociodemographic data and spiritual needs was calculated. Mean scores and estimation of prevalence of spiritual needs were calculated using 95% confidence interval by normal approximation method. Subgroup analysis was conducted to compare these scores with sociodemographic factors using independent t test and one-way ANOVA or Mann-Whitney test and Kruskal-Wallis test, respectively, when assumptions were not met. All statistical tests were two-sided and p value of less than 0.05 was considered statistically significant. All analysis was computed in R-Studio v.4.3.3. Cronbach's alpha was also calculated to test the reliability of each domain.

Results

A total of 100 questionnaires was confirmed for eligibility and consent. However, only a final total of 80 was included as study samples in view of completeness of the questions answered. Faculty ARs notified that non-response to the questionnaires was either due to not eligible, non-willingness to participate in the study or staff were on leave during the data collection period.

Table 1 describes that internal consistency and reliability of SpNQ for childbirth was adequate to good where Cronbach's alpha value was 0.83, 0.81, 0.88, 0.76 and 0.67 for "Religious needs," "Finding meaning and purpose," "Seeking peace," "Need to communicate" and "Support and independence," respectively. This indicates that Cronbach's alpha of the whole

Table 1: Internal consistency and reliability of Spiritual Needs Questionnaire (SpNQ) for childbirth (n=80)

	Alpha
Religious needs	0.83
Finding meaning and purpose	0.81
Seeking peace	0.88
Need to communicate	0.76
Support and independence	0.67

Alpha = Cronbach's Alpha

questionnaire, the Brunei version of the SpNQ for women throughout childbirth, is close to the values obtained in the original English and Farsi version of the SpNQ for Cancer patients. The Cronbach's alpha value indicates that the instrument has good reliability and validity.

Table 2 displays the descriptive characteristics of the participants. The majority of the women were between the age of 40 and above (51.2%). Out of the 80 participants, 90.0% of them were Malay (95%CI: 80.7, 95.3), 55.0% of them experienced one to three pregnancies (95%CI: 43.5, 66.0) and 63.8% of them had one to three children (95%CI: 52.3, 74.0). Since all the participants are either academic or administrative staff of the university, documentations of participants with no formal schooling were not obtained.

Table 3 illustrates the levels of spiritual needs among the women throughout childbirth. It was estimated that "Finding meaning and purpose" was the most prevalent spiritual need among women throughout childbirth (Mean score = 4.2; 95%CI: 4.1, 4.3), followed by "Religious needs" (Mean score = 4.1; 95%CI:3.9, 4.2) and then "Seeking peace" (Mean score = 4.0; 95%CI: 3.9, 4.1). The least prevalent was "Support and independence" (Mean score = 3.6; 95%CI: 3.4, 3.7). Table 4 shows scores according to different levels of age.

The independent variable of female staff members was significantly higher for "Finding meaning and purpose" compared to other age groups (P = 0.048). No further significant association was detected. However, it was observed that those aged 40 to 49 also had the highest mean scores for all other domains.

It was observed that, in terms of spiritual needs in seeking peace (Mean score = 4.2) and the need to communicate (Mean score = 3.7), Malay ethnicity had the highest score compared to Chinese and other ethnicities. Despite these differences, there was no statistically significant difference detected between ethnicity and spiritual needs of the participants.

In terms of religious needs, women having experienced seven to nine pregnancies' had the highest perceived religious needs compared to those women experiencing four to six and one to three pregnancies

Table 2: Descriptive statistics of participants (n= 80)

	n	%	95%CI
Age			
20 – 29	11	13.8	(7.4, 23.7)
30 – 39	28	35.0	(24.9, 46.6)
40 & above	41	51.2	(39.9, 62.5)
Ethnic			
Malay	72	90.0	(80.7, 95.3)
Chinese	5	6.2	(2.3, 14.6)
Others	3	3.8	(1.0, 11.3)
No. of pregnancy			
1– 3	44	55.0	(43.5, 66.0)
4– 6	30	37.5	(27.1, 49.0)
7 – 9	6	7.5	(3.1, 16.2)
No. of children			
1 – 3	51	63.8	(52.3, 74.0)
4 – 6	29	35.2	(26.0, 47.8)
Education			
Secondary school	43	53.8	(42.3, 64.8)
University	37	46.2	(35.2, 57.7)

n = frequency, CI = Confidence interval

(Mean score = 4.5). In terms of the need to communicate, women experiencing four to six pregnancies had the highest spiritual needs to communicate compared to the other groups (Mean score = 3.8). Despite these differences, there was no statistically significant difference detected between number of pregnancy and spiritual needs of the participants.

Women with secondary school education (Mean score = 4.2) had the highest spiritual needs of the religious needs domain as compared to those women educated at the university level. Women educated at the university level also scored significantly high for spiritual needs of seeking for peace compared to the other group (Mean score = 3.7). Despite these differences, there was no statistically significant difference detected between different educational level and spiritual needs of the participants.

Table 5 illustrates spiritual needs scores according to the different number of children the women have to date. There were statistically significant differences detected between different number of children and

Table 3: Mean scores, standard deviation and 95% confidence interval of spiritual needs assessment (n= 80)

N = 80	Mean	(SD)	(95% CI)
Support and independence	3.6	0.6	(3.4, 3.7)
The need to communicate	3.7	0.7	(3.5, 3.8)
Seeking peace	4.0	0.6	(3.9, 4.1)
Religious needs	4.1	0.7	(3.9, 4.2)
Finding meaning and purpose	4.2	0.6	(4.1, 4.3)

SD = Standard deviation, CI = Confidence interval

Table 4: Spiritual needs assessment scores according to participants' different age groups (n = 80)

Age	20 - 29		30 – 39		40 & above		*P*-value a
Spiritual needs	Mean	(SD)	Mean	(SD)	Mean	(SD)	
Religious needs	4.0	1.0	4.1	0.7	4.1	0.6	0.477
Finding meaning and purpose	3.9	1.3	3.8	0.6	4.3	0.8	0.048[b]
Seeking peace	3.9	0.7	4.2	0.6	4.3	0.6	0.088
The need to communicate	3.5	0.8	3.7	0.7	3.7	0.6	0.511
Support and independence	3.4	0.5	3.7	0.5	3.6	0.7	0.792

a = one-way ANOVA, b = Kruskal-Wallis test
Scoring:
1.00 = Very little
1.01 - 2.00 = Little
2.01 - 3.00 = Average
3.01 - 4.00 = Much
4.01 - 5.00 = Very much

spiritual needs. The significant associations between mean score of spiritual needs and number of children observed that those women who had four to six children had significantly higher spiritual needs in "Seeking peace" compared to women having one to three children (P = 0.032). It was also observed that women having four to six children have significantly higher mean score in spiritual needs of "Finding meaning and purpose" compared to women having one to three children (P = 0.011). No further significant association was detected. Moreover, it was observed that those having four to six children had the highest mean scores for all constructs.

Discussions

Our study is the first adapted, amended and modified version of the Spiritual Needs Assessment Scale questionnaire (SpNQ) for women throughout childbirth. The SpNQ is produced in two versions: Malay and English. Our questionnaire is both reliable and has validity which is confirmed with the acceptable value of between 0.67 and the highest Cronbach's alpha value of 0.88.

This study contributes toward understanding spiritual needs of women throughout childbirth where evidence is still scarce, particularly, in Brunei. Spiritual needs are an important aspect in caregiving to improve health consequences and respect toward patients' dignity (Javedanpour et al., 2017). The meaningfulness of childbirth spirituality is repeatedly proven as it is used as a coping mechanism throughout childbirth, especially when it is accompanied by childbirth complications (Bélanger-Lévesque, 2016).

The present study demonstrated significant association between age and spiritual needs of participant. Specifically, women over 40 years old significantly required the spiritual needs associated with "Finding meaning and purpose" of childbirth. Although this study contrasts with the result in a Nigerian multi-center cross-sectional study done in 2014, where women aged 15 to 24 (68.6%) required more spiritual care, the result is similar to those aged 35 years old and above (67.7%) as compared to women of age 25 to 34 years old (59.9%) (Adanikin et al., 2014). Our study is congruent with a Nigerian study that indicates spiritual needs are different between different age groups and highly significant as the women become mature in age. Finding meaning and purpose is considered to be an essential and central component of spirituality (Crowther et al, 2020). Spiritual needs may be evaded by healthcare providers due to their complicated nature (Oboyle & Brady, 2019). In Brunei, the dominant religion is Islam, which may influence the spiritual needs on finding meaning and purpose throughout childbirth. This could be the reason behind the significant association.

There was also significant association between number of children the women have and spiritual needs of "Finding meaning and purpose" and "Seeking peace,"

Table 5: Scores according to different number of children of the participants (n = 80)

Number of children	1-3		4-6		P-value [a]
Spiritual needs	Mean	(SD)	Mean	(SD)	
Religious needs	4.0	0.7	4.2	0.7	0.321
Finding meaning and purpose	3.9	0.6	4.2	0.6	0.011
Seeking peace	4.1	0.6	4.4	0.7	0.032
The need to communicate	3.6	0.7	3.8	0.6	0.079
Support and independence	3.6	0.6	3.7	0.6	0.467

a = Independent *t* test
Scoring:
1.00 = Very little
1.01 - 2.00 = Little
2.01 - 3.00 = Average
3.01 - 4.00 = Much
4.01 - 5.00 = Very much

which were detected as significantly higher in women with four to six children. This result is similar with a qualitative study finding conducted in Iran in 2014, which indicates the significance of the relationship could be due to having a greater risk of developing a high-risk pregnancy in multiparous pregnancies (Heidari et al., 2014b). Moreover, differences from the previous study were shown in a preceding study where there was improved outcome of childbirth among multiparous pregnancies when their spiritual needs were addressed whereby, there was less likelihood of caesarean section and complicated vaginal labor (Nicholson et al., 2009). Another possible reason is that it is likely that, as women have more children, their spiritual needs in "Finding meaning and purpose" and "Seeking peace" of their childbirth experiences become more higher due to the need to cope with the increasing number of children.

Ethnic backgrounds did not significantly affect spiritual needs in this study, which may be due to limited ethnic variation in the recruited participants where 90% of them were Malay. This result is different to a comparative study done in America in 2009, in which some ethnic backgrounds received less spiritual attention (Hamilton, 2009). A study done in Tehran City, Iran, concluded that some women implement spiritual aspects in childbirth to overcome mental adversity, avoiding the use of verbal abusive words and refraining from damaging behaviors (Heidari et al., 2015). Consequently, the lack of disparity in terms of ethnic backgrounds could be due to different composition of religions within each ethnicity. Having said the above, it should be acknowledged that spiritual needs are essential to all women throughout their childbirth experience, although these spiritual needs may be unique to each individual woman in consideration of their demographic background.

In this study, no statistically significant difference between education level and spiritual needs was observed. There are few research studies investigating the relationship between different educational backgrounds and spiritual needs throughout childbirth. Our study pointed out that women with university education level have a higher mean score in terms of spiritual needs of "Support and independence" compared to the women with secondary education level. The reason for this might be due to the provision of in-depth education influencing spirituality from the primary to the university level (da Costa Silveira de Camargo et al., 2023). In our earlier study, it is evident in Brunei that religious education, in particular, Islam, is considered as the way of life that governs the daily life of the people of Brunei (Abdul-Mumin, 2015). Religious studies are also commenced as early as the kindergarten and pre-school. In addition, Brunei people undertake a dual education system comprising of the mainstream education which is assumed in the morning and religious education which is implemented in the afternoon. It is compulsory for Muslim children to attend religious school as early as seven years old. The educational system in Brunei could be the other reason for the significant statistical difference observed where spiritual importance awareness increases more as education status increase further (Abdul-Mumin 2016).

In previous studies, several other important factors were explored, which were not measured in this study. A study done in Nigeria reported that, among 397 women, spiritual guidance throughout pregnancy and childbirth was essentially needed by a majority of women, 301 (75.8%) (Adanikin et al., 2014). In the same study, statistical significant difference could be observed between spiritual needs and monthly income of the womens' family. Higher monthly family income (> $1000) required fewer spiritual needs than those families receiving lower monthly income of less than $1000. In another study done in Canada, the spiritual needs of fathers throughout childbirth were also assessed and the results showed that spiritual needs are also of great importance for the father (Bélanger-Lévesque et al., 2016). In our study, the paternal aspects of spiritual needs throughout childbirth were not estimated.

Since data collection only took place in a university, the study findings may not be adequately representing all women in Brunei. Due to the cross-sectional nature of this study, prospective implications are limited. In addition, the use of self-administered questionnaire may be subjected to recall bias and reporting bias. Future studies may consider assessing more of the sociodemographics which were not evaluated or lacking in the sample of this study, such as religions, complications in delivery, and maternal and foetal complications. Our study was the first to produce two versions (Malay and English) of the SpNQ for women throughout childbirth. The dual language ensured that individuals who are not proficient in one language could still participate in the study. This promotes inclusivity and allows a broader range of participants to contribute their perspectives. This also minimizes language bias, which can occur when individuals respond differently to questions due to variations in language proficiency or cultural interpretation. This reduces the risk of systematic errors in data collection and analysis. Our

study confirmed that not only is the SpNQ a cross-culturally adaptable research instrument, it is also equally valid for patients with terminal illness: cancer patients and normal condition: including women throughout childbirth. This of course took into consideration the adaptation, amendments and modification of questions within the SpNQ to better suit the condition: women throughout childbirth; language used; and sociocultural aspects of Brunei.

Conclusion

In conclusion, the modified and Malay translated SpNQ for childbirth is a cross-culturally reliable research instrument as applied in this study. The findings of this study suggest that spiritual needs are essential during childbirth where "Finding meaning and purpose" and "Seeking peace" were identified to be the common spiritual needs during childbirth. Higher spiritual needs were observed for women aged 40 years old or more and having four to six children. To our knowledge, this is the first study that quantitatively evaluates spiritual needs of women throughout childbirth using a Spiritual Needs Assessment Scale, specifically in Brunei. This study findings may be used by healthcare professionals for developing interventions or strategies to fulfill clients' spiritual needs throughout childbirth. Baseline data from this study could guide future studies to further explore in-depth spiritual aspects of childbirth. Research and practice in this area continue to emphasize the importance of integrating spiritual care into maternity services to support women throughout the childbirth process effectively.

This study focus was on working mothers in one of the largest universities in Brunei, hence, is limited to this population. Future study should embrace women in Brunei as a nationwide study. Since this study is quantitative and cross-sectional in nature, we were not able to gauge in-depth data. However, this study serves as a baseline for future study on the needs of spirituality throughout childbirth. A qualitative study is suggested to delve into women's experiences of spiritual needs during childbirth. Like any study requiring recall, our study may be affected by potential recall bias. Future inclusion criterion may include those with a year or two years of childbirth experiences.

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Conflicts of Interest

We have no conflicts of interest to declare.

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