



The relationship between Spiritual Well-being and Quality of Life in Patients with Diabetes: a systematic review and meta-analysis

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Article History

Received: 05 April 2020

Reviewed: 06/April/2020 to 10/June/2020

Accepted: 11 June 2020

E-publication: 16 June 2020

P-Publication: July - August 2020

Citation

Lida Nouri, Iraj Ahmadi, Gholamreza Ghiasi, Alireza Abdi, Milad Borji, Asma Tarjoman, Somayeh mahdikhani, Ali Gholami. The relationship between Spiritual Well-being and Quality of Life in Patients with Diabetes: a systematic review and meta-analysis. *Medical Science*, 2020, 24(104), 2351-2361

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General Note



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ABSTRACT

Purpose: Diabetes is one of the chronic diseases that affects the spiritual health and quality of life of these patients. The aim of this study was to determine the level of SH in Iranian patients with diabetes and its relationship with QOL through systematic review and meta-analysis approach. **Methods:** The present study was conducted in accordance with SR/MS Protocols (PRISMA) and the search process was carried out by 3 members of the research team. The search process was performed in International and Persian databases in articles published between 1999 by the end of 2018. Data was analyzed by comprehensive Meta analyses (CMA) software. **Results:** There were 11 articles on SH, 5 of which were related to QOL. According to the findings of SH patients based on SWB SH questionnaire was 92.67% (95% CI: 90.09–95.25). It is also showed in Figures 3 and 4 that SH in RH dimension Was 45.64% (95% CI: 37.03–54.26) and Existential SH was 43.36% (95% CI: 35.73–50.99). The patients' SH score based on Dunning's questionnaire was 74.25% (95% CI: 60.62–87.87) and the patients' QOL score is 73.88% (95% CI: 66.08–81.67). There was a significant correlation between SH and QOL is 0.633 (95% CI: 0.60–66). **Conclusions:** According to the findings, there was a relationship between SH and QOL. For this reason, it is recommended to pay special attention to the spiritual dimension of patients. It is also suggested to design and develop spiritual health promotion models for diabetic patients.

Keywords: Spiritual Well-being, Quality of Life, Diabetes, systematic review and meta-analysis

1. INTRODUCTION

Chronic diseases, due to poor lifestyle, are widespread and cause problems for patients and the healthcare system (Flynn et al., 2019, Harris, 2019, Gilbertson et al., 2019, Yilmaz et al., 2019). Diabetes is one of these chronic diseases (Azami et al., 2018b, Azami et al., 2018a). Chronic patients may have specific needs and problems (Aazami et al., 2016). Diabetes causes various complications in patients and is one of the debilitating diseases (Oyewole et al., 2019). The complications of diabetes are more debilitating than the disease itself, which include cardiovascular diseases, amputation, and complications such as anxiety and depression (Doustmohamadian et al., 2019, Khalighi et al., 2019). According to existing statistics, it is predicted that approximately 205 million patients will be added to the diabetes population by 2035 that is a significant increase (Roglic et al., 2005). Diabetes is of two types. Type-1 diabetes is commonly seen during childhood and adolescence; but type-2 diabetes is most commonly diagnosed in older adults (Azizi et al., 2017).

Problems with these patients include reduced Quality of Life (QOL) and mental health (MH) problems (Dragnich et al., 2019, Francis et al., 2019, Naskar et al., 2017). Physical health dimensions (such as pain, discomfort, ability to do things daily), psychological aspects (such as positive and negative emotions, self-confidence, concentration), social relationships (such as personal relationships, sexual activities, and social support), and the social environment (such as the home environment, participation in social activities, access to information, and commuting facilities) has been taken into consideration for QOL, all aspects of which requires attention (Nekouei et al., 2010, Limoe et al., 2019). QOL is a dynamic concept that affects one's performance in different aspects of life (Rezaei et al., 2016). One aspect of human health is the spiritual well-being (SWB) dimension (Vazifeh doost et al., 2019). Spirituality is a kind of an internal desire that results in meaning and aim in life. Although spirituality manifests itself in the form a relationship with God, it is a state beyond religious feelings and can appear as a form of valuing and paying respect for ethics, art, literature, and music (Marzband et al., 2019). From the perspective of Islam, spiritual Health (SH) means accepting God as the meaning of life. In fact, SH is one of the criteria for mental health, which makes one feel satisfied and dignified in life (Mousavimughadam and Delpisheh, 2012, Mousavimughaddam, 2014, Rahmati et al., 2017). Spirituality is a solution to cope with disease, life stresses or mourning, and one's spiritual beliefs bring happiness, having purpose, and self-confidence (Ribaudo and Takahashi, 2008, Farhangi, 2019, Jalali et al., 2019). Elevated spirituality and religion can also reduce suffering and stress in patients and increase their QOL and life satisfaction (Okhli et al., 2019, Sharif and Ong, 2019, Lee and Jirásek, 2019).

Diabetes affects the SWB of patients (Fallahi et al., 2019) so that four general categories of religious attitudes and life satisfaction, religious performance and life satisfaction, spiritual beliefs and coping with the disease, spiritual beliefs and self-care were achieved in Maslampak et al.'s qualitative study and these domains have enabled these patients to have more control over their

disease and to play an effective role in their self-care (Maslakpak et al., 2011). In addition, spirituality also had an effect on health status of other chronic patients. So that the family has been shown to be both a source of relief, a source of tension, and a source of seeking help in patients with heart disease, the spiritual experience of patients with heart disease, in the four main domains of trust in God (including the themes of Almighty God, direct and indirect relationship with God, reference to religious values, gratitude), struggling with heart (facing death, threatened individual independence). Indeed, heart attacks have made the spiritual dimension of patients more prominent (Momennasab et al., 2013). In fact, spirituality can be effective in improving patients' conditions (Faghani et al., 2018).

Aim

Considering the prevalence of diabetes and the role of palliative care in the health of these patients as well as the lack of a review study in this field, the aim of this study was to determine the level of SH in Iranian patients with diabetes and its relationship with QOL through systematic review and meta-analysis (SR/MS).

2. METHOD

2.1. Study protocol

The present study was conducted in accordance with SR/MS Protocols (PRISMA) (Moher et al., 2015) and the search process was carried out by 3 members of the research team.

2.2. Search strategy

The search process was performed in International databases of Scopus, PubMed / Medline, Science Direct, Web of Science, CINAHL, Embase, EBSCO, and Google Scholar databases according to MeSH keywords such as Prevalence, Spiritual health, Spirituality, Patient and Diabetes within articles published between 1999 By the end of 2018. The search process was carried out between July 10th to July 30th. The Persian databases also included SID, Irandoc, Regional Information Center for Science and Technology (RICST), Mag-Iran, IranDoc, Barakat Knowledge Network System, Iranian National Library.

2.3. Inclusion and exclusion criteria

Inclusion Criteria: 1. Access to full-text articles 2. Articles with at least English abstract 3. The study population includes patients with type 2 diabetes 3. Articles using Spiritual Well-Being Scale (SWB) and Dunning's tools to assess SH status. 4. Articles using WHOQOL-BREF tools to measure QOL.

Exclusion criteria: 1. Incomplete data reporting 2. Review articles, letters-to-the editor, qualitative articles, and those presented in congresses

2.4. Selection of studies

First, all SH-related articles in Iran were extracted. After excluding duplicates, titles, abstracts, and complete files were all reviewed and articles, which were not related to SH of diabetic patients, and QOL-SH relationship were excluded.

2.5. Data Extraction

The checklist consisted of the following sections: Author's Name and Last Name, Year of publication, Sample size, Mean $\pm$ SD of age of patients, Mean $\pm$ SD of SH and QOL score in each dimension, overall mean score of SH and QOL, and relationship between SH and QOL.

2.6. Statistical analysis

Data was analyzed by comprehensive Meta analyses (CMA) software. Heterogeneity was assessed by Cochran's Q test and I² (the heterogeneities of the studies were divided into: less than 25% (low heterogeneity), 25% to 75% (moderate heterogeneity) and more than 75% (high heterogeneity). We used subgroup analysis to assess the prevalence of musculoskeletal pain based on the site of pain and location of the studies. The sensitivity analysis of the studies was done to check the robustness of the data.

3. RESULTS

3.1. Search results and study characteristics

There were 11 articles on SH, 5 of which were related to QOL (Fig. 1). The details of articles entered into the systematic review and meta-analysis are shown in Tables 2 and 3.

3.2. Prevalence of SH

3.2.1. SWB questionnaire

According to the findings of SH patients based on SWB SH questionnaire was 92.67% (95% CI: 90.09–95.25) (Fig. 2). It is also showed in Figures 3 and 4 that SH in RH dimension Was 45.64% (95% CI: 37.03–54.26) and Existential SH was 43.36% (95% CI: 35.73–50.99).

3.2.2. Dunning questionnaire

According to the findings, the patients' SH score based on Dunning's questionnaire was 74.25% (95% CI: 60.62–87.87) (Fig. 5). In the self-awareness dimension 25.08% (95% CI: 21.11–29.06) (Fig. 6), in the spiritual beliefs dimension 10.42% (95% CI: 7.46–13.38) (Fig. 7), in the spiritual activities dimension 14.72% (95% CI: 13.19–16.25) (Fig. 8), In the spiritual needs dimension was 22.92% (95% CI: 15.97–29.87) (Fig. 9).

3.3. Prevalence of QOL status

According to the findings, the patients' QOL score is 73.88% (95% CI: 66.08–81.67) (Fig. 10).

3.4. Relationship between SH and QOL

There was a significant correlation between SH and QOL is 0.633 (95% CI: 0.60-66) (Fig. 11). Regarding the relationship between QOL and SH dimensions, it was shown that between QOL with the self-awareness dimension 0.48 (95% CI: 0.32-0.62) (Fig. 12), with the spiritual beliefs dimension 0.40 (95% CI: 0.17-0.60) (Fig. 13), with the spiritual dimension activities had a correlation of 0.63 (95% CI: 0.33-0.81) (Fig. 14) and a correlation of spiritual needs with 0.64 (95% CI: 0.44-0.77) (Fig. 15).

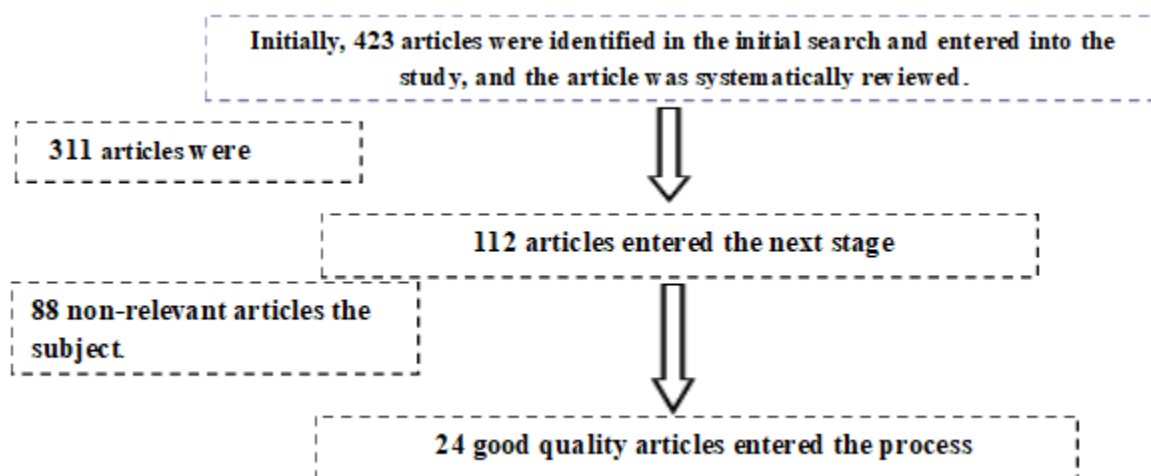


Figure 1: Flowcharts for SR/MS

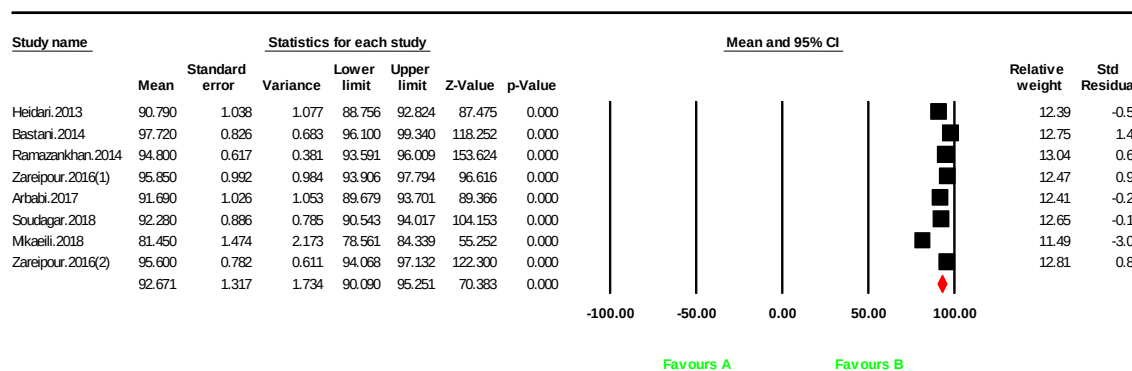
Table 1: Characteristics of Imported Studies Related to SH and QOL through SR/MS

S No	Author	Place	N	Age	SH				QOL	
					Tools	Religious health	Existential Health	Total SH	Tools	Total QOL
1	Heidari (2013)	Ghom (Iran)	154	61.46 (12.70)	SWB	47.69 (6.32)	43.23 (7.89)	90.79 (12.88)	-	-
2	Bastani (2014)	Babol (Iran)	194	60-75	SWB	-	-	97.72 (11.51)	-	-
3	Ramezankhani (2014)	Bandar Abbas (Iran)	330	40-74	SWB	51.77 (5.69)	43.02 (7.56)	94.80 (11.21)	WHOQOL-BREF	229.52 (41.67) Score range: 0-400
4	Zareipour (2016)	Urmia (Iran)	200	70.51 (8.7)	SWB	51.28 (8.14)	44.57 (7.69)	95.85 (14.03)	-	-
5	Arbabi (2017)	Zabol (Iran)	100	>40	SWB	49.12 (8.31)	55.62 (4.32)	91.69 (10.26)	WHOQOL-BREF	232.21 (43.65) Score range: 0-400
6	Soudagar (2018)	Hormozgan	200	52.60	SWB	-	-	92.28	-	-

		(Iran)		(12.11)				(12.53)		
8	Mikaeili (2018)	Ardabil (Iran)	108	SWB	SWB	28.39 (5.57)	30.33 (6.87)	81.45 (15.32)	-	-
9	Zareipour (2016)	Urmia (Iran)	330	60.4 (73.8)	SWB	-	-	95.6 (14.2)	-	-
9	Shahbazi (2015)	KHormashahr (Iran)	145	56.77 (1.12)	Dunning	-	-	79.41 (15.82)	WHOQOL-BREF	74.44 (1.65) Score range: 24-120
10	Marzban (2019))	Yazd (Iran)	600	40-74	Dunning	-	-	81.34 (14.39)	WHOQOL-BREF	79.34 (11.02) Score range: 24-120
11	Panahi (2019)	Sanandaj (Iran)	400	-	Dunning	-	-	62.04 (14.36)	WHOQOL-BREF	67.85 (11.79) Score range: 24-120

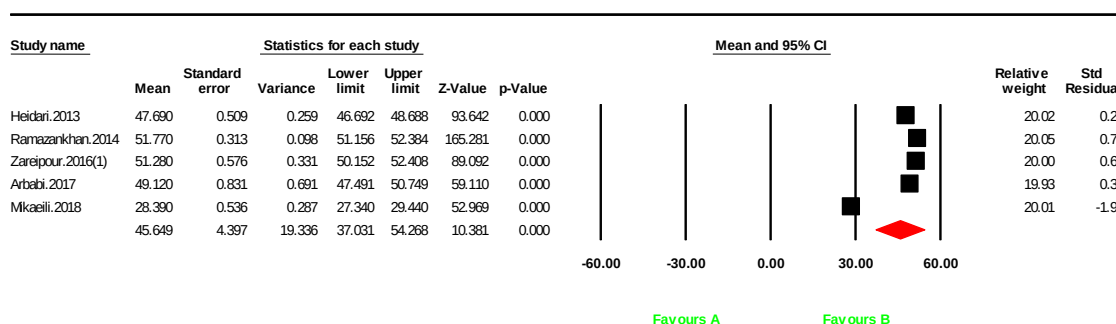
Table 2: Mean (SD) score of SH dimensions based on Dunning questionnaire

Dimensions SH	-	self-awareness	spiritual beliefs	spiritual activities	spiritual needs
Shahbazi (2015)	10-40	29.59 (5.43)	12.56 (2.39)	13.72 (4.38)	23.54 (6.32)
Marzban (2019)	4-16	25.02 (4.11)	11.21 (3.28)	14.25 (5.37)	27.32 (2.29)
Panahi (2019)	6-24	20.70 (5.78)	7.50 (2.71)	16.16 (3.68)	17.92 (4.59)



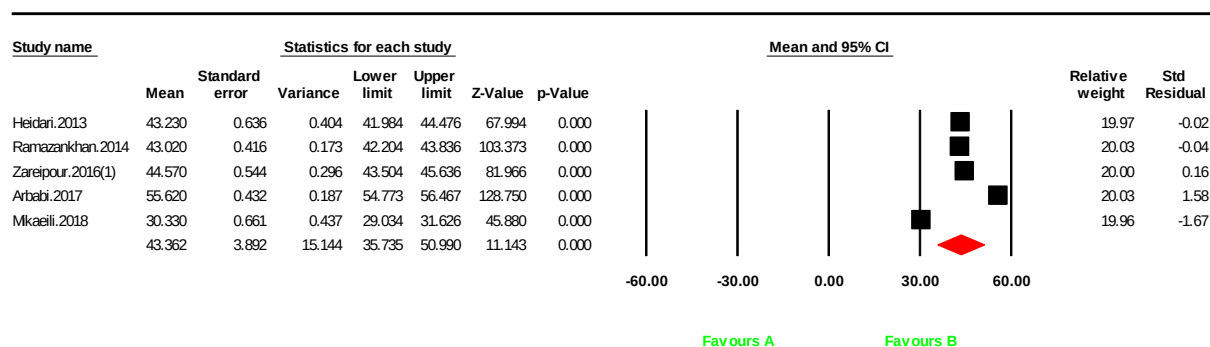
Meta Analysis

Fig. 2: Evaluation of SH status of patients with diabetes based on SWB questionnaire



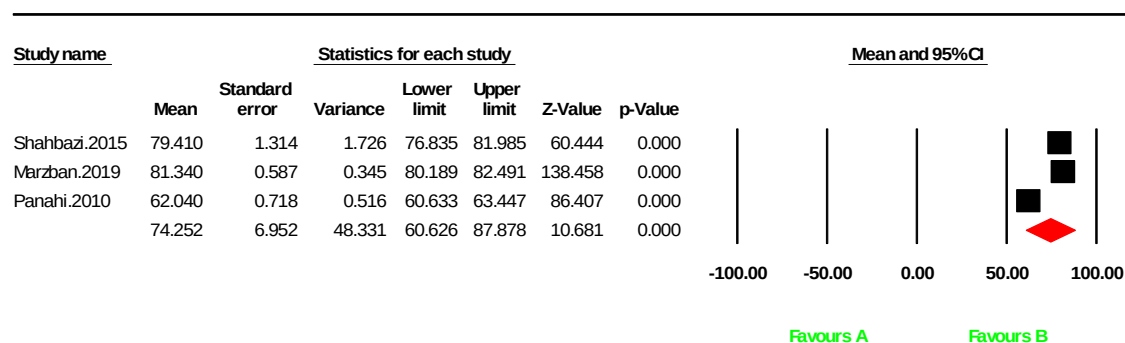
Meta Analysis

Fig. 3: Evaluation of RH status of patients with diabetes based on SWB questionnaire



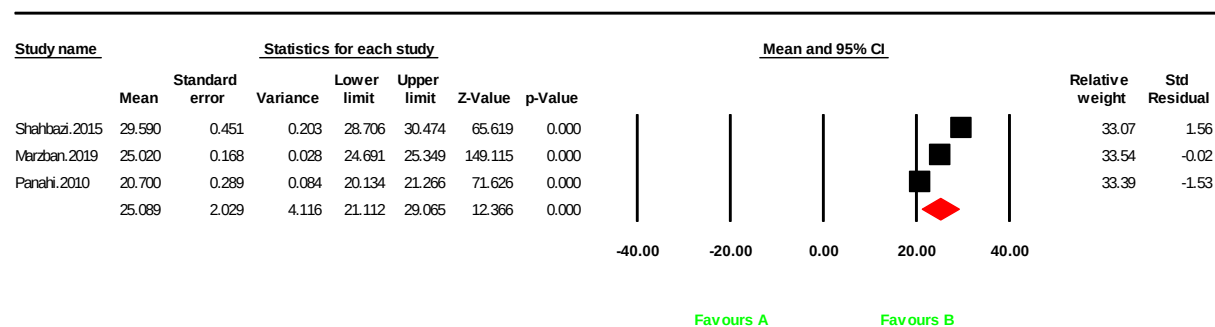
Meta Analysis

Fig. 4: Evaluation of Existential spiritual health status of patients with diabetes based on SWB questionnaire



Meta Analysis

Fig. 5: Evaluation of SH status of patients with diabetes based on Dunning questionnaire



Meta Analysis

Fig. 6: Evaluation of self-awareness status of patients with diabetes based on Dunning questionnaire

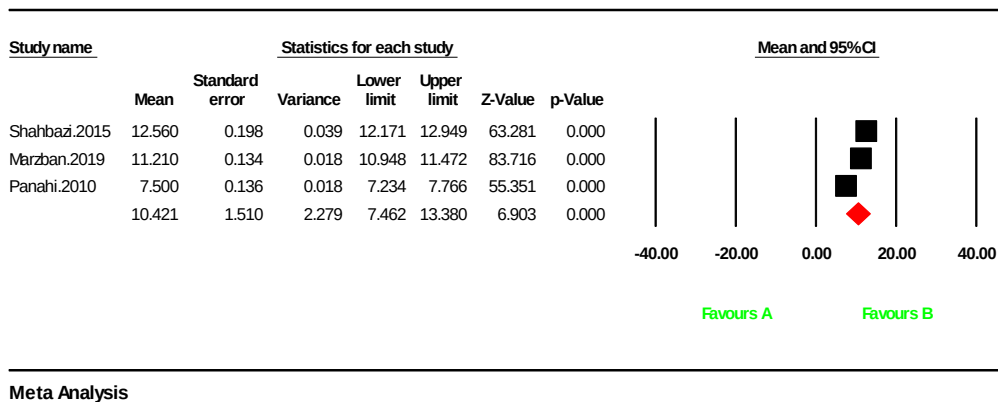


Fig. 7: Evaluation of spiritual beliefs status of patients with diabetes based on Dunning questionnaire

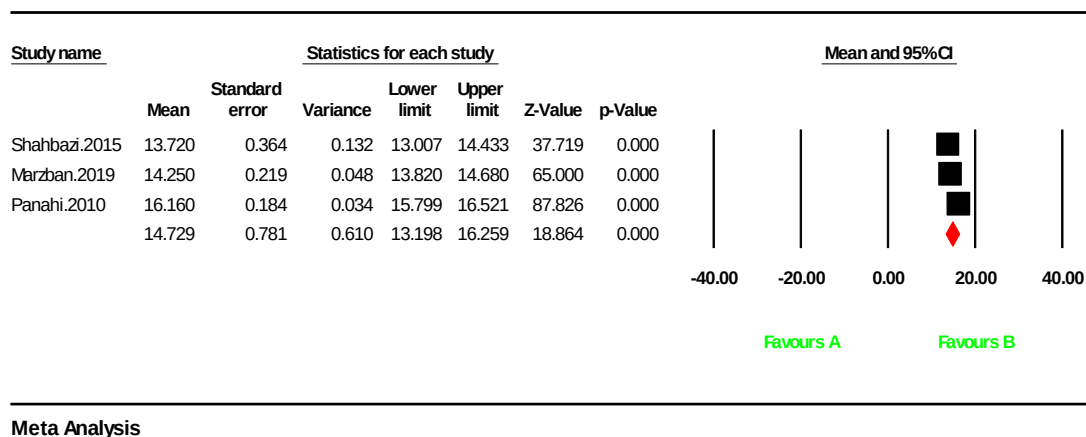


Fig. 8: Evaluation of spiritual activities status of patients with diabetes based on Dunning questionnaire

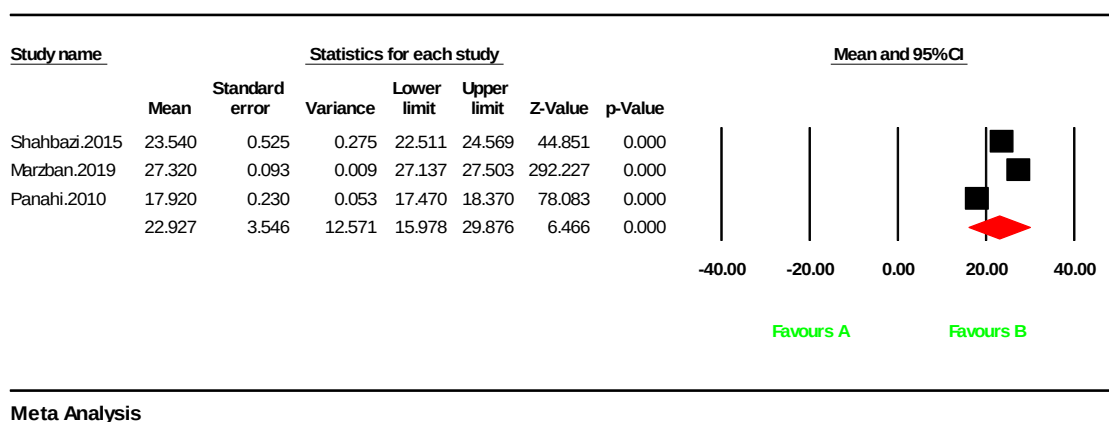
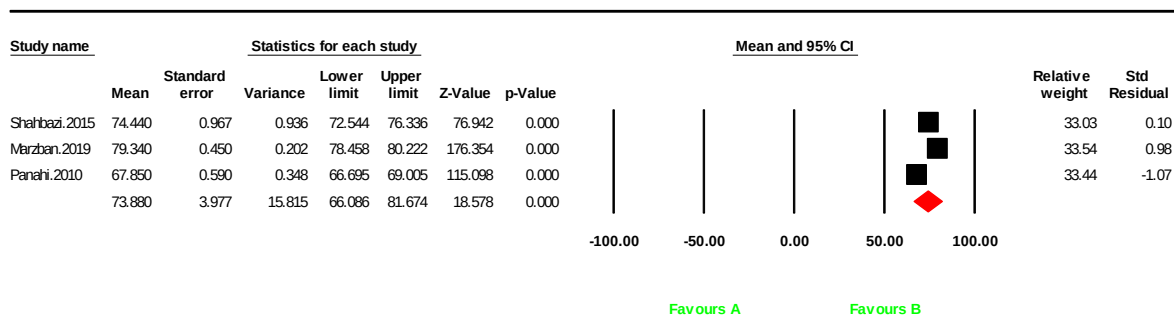
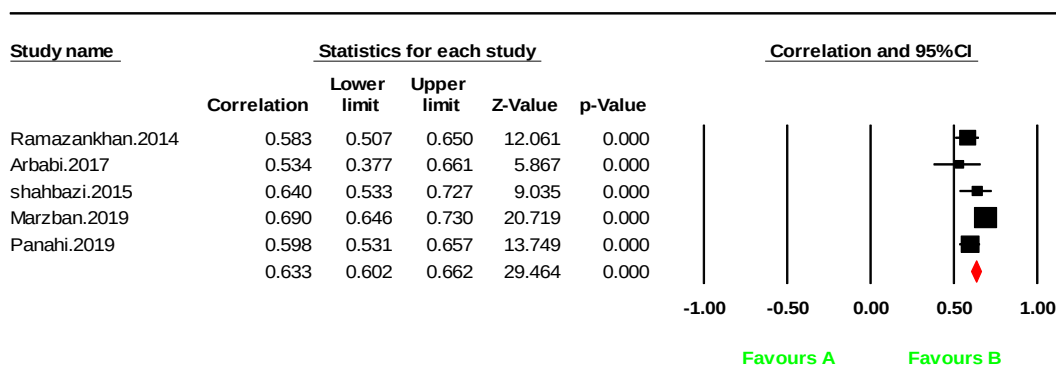


Fig. 9: Evaluation of spiritual needs status of patients with diabetes based on Dunning questionnaire



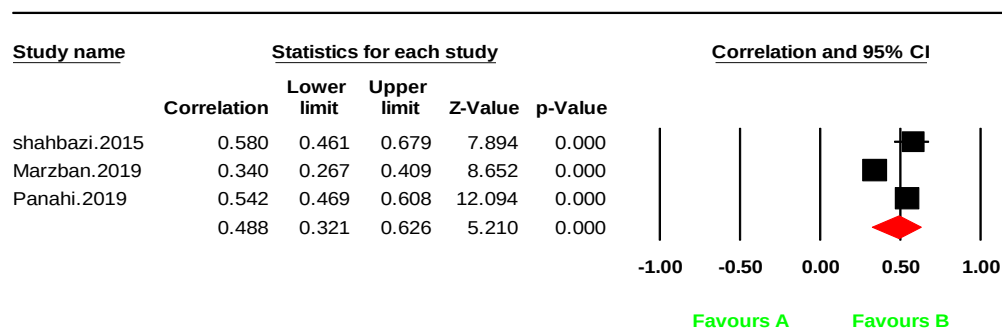
Meta Analysis

Fig. 10: Evaluation of QOL status of patients with diabetes



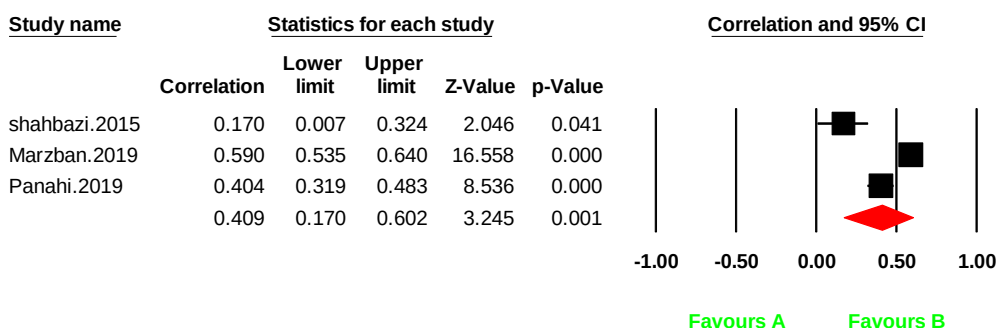
Meta Analysis

Fig. 11. Correlation between spiritual health and quality of life



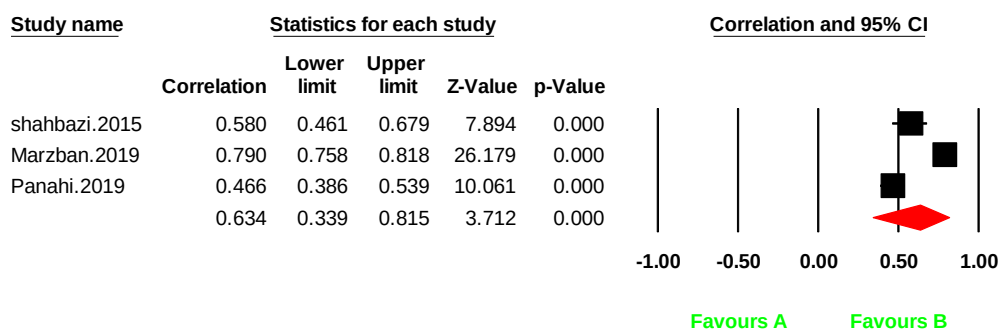
Meta Analysis

Fig. 12. Relationship between QOL and self-awareness



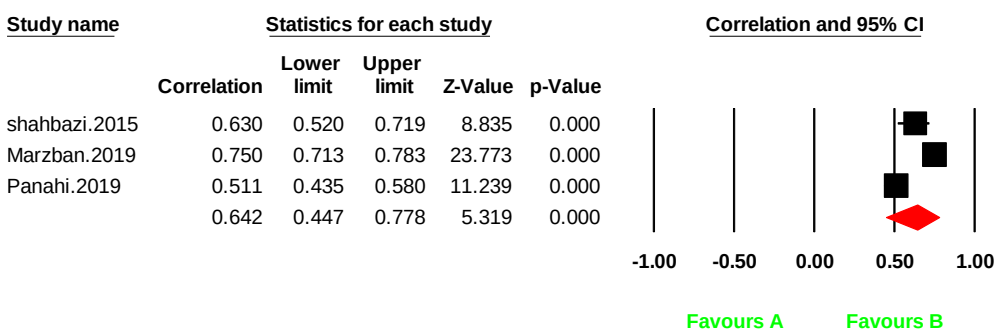
Meta Analysis

Fig. 13. Relationship between QOL and spiritual beliefs



Meta Analysis

Fig. 14. Relationship between QOL and spiritual activities



Meta Analysis

Fig. 15. Relationship between QOL and spiritual needs

4. DISCUSSION

This study is the first systematic review and meta-analysis performed in Iran to investigate the relationship between SH and QOL in diabetic based on SR/MS approach. The findings revealed that Mean $\pm$ SD of SH score for the SWB questionnaire was 92.67 ± 1.31 and was 74.25 ± 6.95 for Dunning questionnaire. Also, the Mean $\pm$ SD of QOL score of these patients was 73.88 ± 3.97 out of 120. The mean $\pm$ SD of HRQOL score in Prajapati et al.'s study was 65.47 ± 15.07 out of 100 (Prajapati et al., 2017) and 51.50 ± 50.78 in Gebremedhin et al.'s study (Gebremedhin et al., 2019).

The findings of this study showed a significant statistical relationship between SH and QOL and the results of this study will be compared with other related studies in this area. In a meta-analysis study, Sawatzky et al. found a significant and moderate relationship between SH and QOL ($r = 0.34$, 95% CI: 0.28–0.40) (Panahi et al., 2019). Bai et al. reported a significant correlation between SWB and QOL in cancer patients (Prajapati et al., 2017).

5. CONCLUSION

According to the findings, there was a relationship between SH and QOL. For this reason, it is recommended to pay special attention to the spiritual dimension of patients. It is also suggested to design and develop spiritual health promotion models for diabetic patients.

Abbreviations

SR/MS: systematic review and meta-analysis

QOL: Quality of Life

SWB: Spiritual Well-being

Funding: This study was funded by Student Research Committee, Kermanshah University of Medical Sciences, Iran (grant number: 3007909).

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical approval: The study was approved by the Medical Ethics Committee of Kermanshah University (ethical approval code: IR.KUMS.REC.1398.509).

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