



Association of Death Anxiety with Spiritual Well-Being and Religious Coping in Older Adults During the COVID-19 Pandemic

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Accepted: 29 October 2020 / Published online: 7 December 2020
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Abstract

This descriptive study aimed to examine the association of death anxiety with religious coping and spiritual well-being among 248 community-dwelling older adults during the COVID-19 pandemic. The brief Arab religious coping scale, the Arabic version of the spiritual well-being Scale, and the Arabic Scale of death anxiety were used to measure religious coping, spiritual well-being, and death anxiety, respectively. The majority of the participating older adults were found to have low levels of religious coping and spiritual well-being and high levels of death anxiety. Further, in comparison to male older adults, female older adults were found to have higher levels of religious coping and lower levels of death anxiety. Moreover, in comparison to widowed older adults, married older adults were found to have higher levels of death anxiety. After controlling for sociodemographic characteristics, religious coping, and spiritual well-being were found to be significant predictors of death anxiety in older adults.

Keywords Death anxiety · Spiritual well-being · Religious coping · COVID-19 · Older adults

Introduction

On March 11, 2020, the World Health Organization (WHO) announced the coronavirus disease (COVID-19) a global pandemic, which was subsequently confirmed by a United States (US) National Emergency declaration on March 13, 2020 (Armitage

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and Nellums 2020). By May 22, 2020, over 5.11 million people worldwide had been infected with COVID-19, with more than 333,000 deaths (D'Adamo et al. 2020). Further, COVID-19 has caused dramatic collapses in healthcare systems around the world, leading to significant losses of health and life, particularly for older adults who require intensive care (D'Adamo et al. 2020). The initial reports from Wuhan revealed that more than half of all COVID-19 confirmed cases were among older adults, who have higher morbidity and mortality rates than other age groups (Li et al. 2020). Medical reports from Italy and the US, which are both suffering from a high burden of COVID-19 cases, have also revealed that high case-fatality rates of COVID-19 are significantly associated with advanced age, with most death cases occurring among people aged 60 years and over (Onder, Rezza and Brusaferro 2020). Many research studies and reports have confirmed that older adults are the most vulnerable age group to COVID-19 (Onder et al. 2020; Covid and Team 2020), and that COVID-19 significantly impacts all aspects of older adults' quality of life (Hall Laddu Phillips Lavie and Arena 2020). One of these impacted aspects is older adults' mental health, including anxiety (Kim and Kim 2019). Death anxiety means persistent, abnormal, and panic fear of dying (Bala and Maheshwari 2019).

Although it is natural for older adults to experience death anxiety (DA), the COVID-19 pandemic has exacerbated feelings of death anxiety in older adults, leading to catastrophic consequences on older adults' body functions in general and their immunity in particular (Chatard Renoux Monéger Jaafari and Selimbegovic 2020). Such consequences can lead to dramatic increases in morbidity and mortality rates among older adults (Chatard et al. 2020).

Death anxiety has been associated with adverse health consequences, including the decrease in physical functions, psychological stress, impaired ego integrity, weakening of religious beliefs, life dissatisfaction, and poor resilience (Semenova and Stadlander 2016). Further, Death anxiety is associated with the exposure to life-threatening events (Hoeltherhoff and Chung 2013). For example, Elizarrarás-Rivas et al. (2010) found that people who witnessed their family members or relatives being diagnosed with H1N1 influenza and suffering from its symptoms experienced high levels of death anxiety, and Safren et al. (2003) reported similar findings among HIV-positive older adults. However, while many studies have explored death anxiety in older adults as a result of life-threatening infectious diseases such as the H1N1 influenza and HIV (Hoeltherhoff and Chung 2013; Safren Gershuny and Hendriksen 2003; Elizarrarás-Rivas et al. 2010), the current study is the first to explore death anxiety experienced by older adults during the COVID-19 pandemic. Further, the association of death anxiety with certain sociodemographic characteristics, religious coping, and spiritual well-being among older adults during the COVID-19 pandemic has never been examined. Moreover, the related studies in the literature were not conducted on older adults exclusively and have reported limited and conflicting findings on the influence of sociodemographic variables such as gender and marital status on religiosity, spirituality, and death anxiety among older adults (Bassett and Bussard 2018; Henrie and Patrick 2014).

It is imperative to investigate religious coping and spiritual well-being and how they relate to death anxiety among older adults during the COVID-19 pandemic. With social distancing being one of the effective ways of limiting the

spread of COVID-19, religious practices in Mosques and Churches were suspended (Eisazadeh Aliakbari Dehkordi and Aghajanbigloo 2020). Consequently, the religious coping and spiritual well-being of older adults have been dramatically and negatively impacted, and it is expected that their levels of death anxiety have increased (Eisazadeh et al. 2020). A better understanding of the interaction between religious coping, spiritual well-being, and death anxiety would help researchers in the field of nursing understand how the religious coping and spiritual well-being of older adults could be enhanced under such exceptional circumstances in order to decrease older adults' death anxiety and its associated COVID-19 related morbidity and mortality (Lu et al. 2020). Further, cross-cultural research studies on death anxiety among older adults in the Middle East are limited.

Religious coping behaviors, such as praying, are usually carried out for managing distressing and stressful situations (Jong 2020). Many research studies have confirmed the effectiveness of such religious coping behaviors in helping people manage their feelings of distress and anxiety, as they allow people to cope with guilt, submit totally to God's will, view affliction in a positive light, and control their fear (Chatard et al. 2020; Rosmarin and Leidl 2020; Vishkin and Tamir 2020). Religious coping has been found to be a buffer against death anxiety and may work as a mechanism that interrupts the cycle of the negative consequences of death anxiety. Religious coping enhances optimism and hope, which in turn inhibit death anxiety (Vishkin and Tamir 2020).

It is essential to consider the spiritual well-being of older adults during a stressful and life-threatening situation such as the COVID-19 pandemic. The meaning of spirituality varies and is not limited to religious practices (MacLeod Wilson Crandall and Austin 2019). Spirituality is defined as the "dynamic and intrinsic aspect of humanity through which persons seek meaning and purpose as well as relationships to self, family, others, and community" (MacLeod et al. 2019, p. 4). "Spirituality" exists inside both religious and secular people and promotes a positive sense of inner peace and healing (Rosmarin and Leidl 2020). Spiritual well-being, the perfect development of spiritual abilities, is crucial for the optimal management of death anxiety. Even in adverse circumstances, improved spirituality can reduce fear of death, allow people to overcome hardships, and improve people's satisfaction with their life (Vasigh arjomanand Borjiet 2018).

Although studies in the literature have reported multiple findings, death anxiety in older adults is generally associated with their sociodemographic characteristics (e.g., gender and marital status), spirituality, and religiosity. However, studies conducted in Muslim countries have not targeted older adults specifically. Therefore, due to the minimal evidence and contradictory findings of recent studies on death anxiety in the literature, this study aimed to examine the association of death anxiety with religious coping and spiritual well-being among older adults during the COVID-19 pandemic. As a secondary purpose, we are interested in examining the differences in the study's main variables based on older adults' sociodemographic characteristics such as gender and marital status.

Methods

Study Type and Settings

This was a descriptive study.

Sample Size and Sampling

Two hundred and forty-eight community-dwelling older adults aged between 60 to 75 years were included in the study. This age category was selected in order to rule out any potential confounding effects of cognitive impairment or memory loss (McParland Kelly and Innes 2017). The sample size was determined based on a-priori G*power analysis using GPower 3.1 software for the independent sample *t*-test (Faul Erdfelder Lang and Buchner, 2007). Given a significance level of $\alpha=0.05$, an estimated effect size of 0.5 (Cohen 2013), and a statistical power level of 0.95, the minimum required sample size was 236. An additional 12 older adults were recruited to control for any potential dropouts.

Ethical Consideration

The researchers obtained ethical approval (IRB # 399-2020) from the Institutional Review Board (IRB) of Jordan University of Science and Technology. Following the IRB approval and before the initiation of any study procedures, written informed consent was obtained from the participants. Throughout the data collection process, the participants were ensured that their participation was voluntary, and that they could withdraw from the study at any time without consequences or penalties. The participants' personal information was kept anonymous and was not disclosed to anyone, and the collected data were kept private and confidential.

Measures

Death Anxiety

Death anxiety was measured using the Arabic Scale of Death Anxiety (ASDA), which was validated in a research study conducted in three Arab countries (Abdel-Khalek Lester Maltby and Tomás-Sábado 2009). The ASDA includes 20 statements answered on a 5-point intensity scale (ranging from 1 = "No" to 5 = "Very much"). The total possible score of the ASDA ranges from 20 to 100, with higher scores indicating greater death anxiety levels. In the original study, the ASDA had very satisfactory Cronbach's alpha reliability scores ranging from 0.88 to 0.93, and good internal consistency scores ranging from 0.74 to 0.90. Compared to Templer's DAS, the ASDA had high convergent validity scores which ranged

from 0.60 to 0.74 (Abdel-Khalek et al. 2009). In the current study, the internal consistency reliability of the ASDA was satisfactory (Cronbach's $\alpha = 0.78$).

Spiritual Well-Being

Spiritual well-being was measured using the Arabic version (Musa and Pevalin 2012) of the Spiritual Well-Being Scale (SWBS; Ellison 1983). The SWBS consists of 20 items answered on a six-point scale ranging from '1 = strongly disagree' to '6 = strongly agree'. The total possible score of the SWBS was calculated by adding together the possible responses of all of the items after reverse coding the negative items (e.g. "I do not enjoy much about life"). The total possible score ranges from 20 to 120, with higher scores indicating greater levels of spiritual well-being. The face and construct validity of the original SWBS were established in the original study (Ellison 1983), and the validity of the Arabic version of the SWBS was demonstrated among a sample of Arab older adults (Musa and Pevalin 2012). The Cronbach's α reliability of the Arabic version of the SWBS was 0.87 in the study of Musa and Pevalin (2012). Also, in the current study, the internal consistency reliability of the SWBS was excellent (Cronbach's $\alpha = 0.87$).

Religious Coping

Religious coping was measured using the brief Arab religious coping scale (BARCS; Amer Hovey Fox and Rezcallah 2008). The BARCS consists of 15 items answered on a four-point scale ranging from '0 = not used at all/does not apply' to '3 = used always'. The total score of the BARCS was calculated by adding together the possible responses of all of the items. The total possible score ranges from 0 to 75, with higher scores indicating greater levels of religious coping. The BARCS has demonstrated strong face validity and satisfactory construct validity (Amer et al. 2008). The Cronbach's α for the BARCS in the original study was 0.94 (Amer et al. 2008). The Cronbach's α reliability of the BARCS in the current study was 0.85.

Demographic Characteristics

The participating older adults' demographic data, such as age (continuous variable), gender (female/male), marital status (married/widowed), employment (yes/no), education (finished high-school/below high-school/Bachelor's degree or higher), employment (yes/no), and number of people living in the same household (continuous variable), were collected by asking the participants to fill out the demographic questionnaire.

Data Collection

Following the IRB approval, the researcher sent a message to all nursing students through the university email portal system, encouraging them to invite their parents or grandparents who met the eligibility criteria to participate in the study.

This message also contained brief information about the study purpose and procedures and the participants' rights and responsibilities. Further, the message contained a request for students whose parents or grandparents agreed to participate in the study to reply with their phone numbers and convenient dates/times to schedule a phone interview with the research assistant. Due to the lockdown in Jordan, all study data were collected over the phone and directly documented on the designated spaces on each participant's questionnaire. The average time of each phone call was 15 min.

Statistical Analysis

The Statistical Package for the Social Sciences (SPSS version 25.0 (Armonk, NY: IBM Corp) was used for all statistical analyses. Descriptive statistics were used to describe the older adults' demographic characteristics and levels of religious coping, spiritual well-being, and death anxiety. Independent two-sample t-tests were used to examine the differences in the main variables according to the participants' gender (female vs. male) and marital status (married vs. widowed). T-test analysis was not conducted for education, employment, or religion due to the small sample sizes in the comparison groups. Hierarchical regression was used to examine the association between death anxiety and levels of religious coping and spiritual well-being after controlling for gender and marital status. The Pearson correlation indicated that there was no association between age and death anxiety; therefore, age was not included in the regression model. As indicated by the results of the t-test (Table 2), only the significant independent variables gender and marital status were entered into the model.

Results

The Participants' Demographic Characteristics and the Mean Scores of the Study Variables

At the beginning of the study, 258 older adults were recruited. Ten participants were excluded due to unfinished questionnaires, resulting in a total of 248 participants and a response rate of 90.9%. The ages of the participants ranged from 60 to 68 years ($M=93.95$, $SD=2.9$). The number of people living in the same household with the participants ranged from 1 to 5 people ($M=1.6$, $SD=0.6$). Of the 248 participants, 105 (42.3%) were female, 142 (57.3%) were married, 228 had not completed high school, 97.9% were retired, and 95.9% were Muslim. The findings showed that most of the participants had below-average levels of religious coping ($M=36.15$, $SD=6.8$) and spiritual well-being ($M=52.01$, $SD=17.5$) and high levels of death anxiety ($M=68.76$, $SD=19.2$). The descriptive statistics of the participants are outlined in Table 1.

Table 1 Descriptive statistics of the participants' demographics, ASDA, BARCS, SWBS scores ($n = 248$)

Characteristics	Participants	
	<i>N</i>	%
Gender		
Female	105	42.3
Male	143	57.7
Marital status		
Widowed	106	42.7
Married	142	57.3
Education		
Completed high school	11	4.5
Below high school	228	91.9
Bachelor's degree and higher	9	3.6
Employment		
No	243	97.9
Yes	5	2.1
Religion		
Islam	238	95.9
Christianity	10	4.1
	Mean	SD
Age	63.95	2.9
Number of people living in the same household	6.3	2.5
Total ASDA scores	68.76	19.2
Total BARC scores	36.15	6.8
Total SWBS scores	52.01	17.5

ASDA Arabic scale of death anxiety, BARC Brief arab religious coping scale, SWBS Spiritual well-being scale SD Standard deviation

Table 2 Group differences based on demographic data ($N = 248$)

Nurse groups	Spiritual well-being			Religious coping			Death anxiety		
	Mean	SD	<i>t</i>	Mean	SD	<i>t</i>	Mean	SD	<i>t</i>
<i>Gender</i>									
Female	50.40	19.9	1.25	36.99	7.8	3.72**	58.80	16.6	-7.26**
Male	53.20	15.3		33.80	5.7		76.07	19.8	
<i>Marital status</i>									
Widowed	51.97	17.6	0.04	35.1	6.8	0.12	71.11	18.9	2.12*
Married	52.07	17.3		35.2	6.9		65.60	21.8	

SD Standard deviation

*Significant difference at $p \leq 0.05$; ** Significant difference at $p \leq 0.001$

Differences Between the Study Groups

As shown in Table 2, the independent two-sample t-test analysis revealed significant gender-based differences in the participants' levels of religious coping and death anxiety: ($t_{246}=3.72, p<0.001$) and ($t_{245}=-7.26, p<0.001$), respectively. In comparison to male older adults, female older adults reported higher levels of religious coping and lower levels of death anxiety. Further, the independent two-sample t-test analysis revealed a significant difference between the death anxiety levels of married older adults and those of widowed older adults ($t_{246}=2.12, p=0.035$). Based on the analysis, married older adults had higher levels of death anxiety.

Predictors of Death Anxiety in Older Adults

Hierarchical multiple regression was used to assess whether religious coping and spiritual well-being are predictors of death anxiety in older adults after controlling for gender and marital status. The participants' demographics, including gender and marital status, were entered into Model 1, and religious coping and spiritual well-being levels were entered into Model 2. The relative contributions of religious coping and spiritual well-being as predictors of older adults' death anxiety are summarized in Table 3. As shown in Table 3, after controlling for gender and marital status in step 2, the religious coping and spiritual well-being levels of the participants accounted for 2.3% of the variance in death anxiety. Overall demographics, religious coping, and spiritual well-being predicted 22.5% of the variance in the participants' death anxiety.

Discussion

The current study is the first study conducted in the Middle East to examine older adults' death anxiety and its associated factors during the COVID-19 pandemic. This study found older adults' levels of religious coping, spiritual well-being, and

Table 3 Hierarchical regression analysis with the death anxiety Scores ($N=248$)

Step and predictor variable	R^2	ΔR^2	β	t	p
Step 1	.202	.202			
Marital status			−6.640	−2.828	.005
Gender			17.695	7.231	<.001
Step 2	.225	.023			
Marital status			−6.521	−2.806	.005
Gender			16.695	6.981	<.001
Spiritual well-being			−.140	−1.986	.048
Religious coping			−.434	−2.365	.019

$F_{(4, 243)}=17.67, p<.001$

R^2 R squared, ΔR^2 : difference between R squared; t t-test p value

death anxiety to vary significantly based on the selected sociodemographic characteristics. Further, the results indicated significant associations between death anxiety and certain sociodemographic characteristics, religious coping levels, and spiritual well-being levels in older adults.

Consistent with previous studies conducted on similar population groups during other pandemic conditions, such as HIV/AIDS and the H1N1 influenza (Hoelterhoff and Chung 2013; Safren et al. 2003; Elizarrarás-Rivas et al. 2010), older adults in the current study had high levels of death anxiety. Several explanations may be suggested for these high levels of death anxiety. Due to the rapid progress and high case-fatality of COVID-19, billions of older adults over the world, especially those with chronic illnesses, have been experiencing fear of death (Le Couteur, Anderson and Newman 2020). From the beginning of the pandemic and up until now, older adults have had the highest fatality rate (Le Couteur Anderson and Newman 2020). However, the older adults' mean ASDA score (68.76 out of 100) in the current study was higher than that of previous studies which applied the same scale on other populations of Muslim older adults (Dadfar Lest-erand Bahrami 2016). In comparison to many other countries around the world, Jordan has a low COVID-19 mortality rate; however, the dramatically increasing COVID-19 mortality rates recorded in neighboring countries like Saudi Arabia may have contributed to the high levels of death anxiety reported in the current study (Alahdal Basingab and Alotaibi 2020).

Most older adults in this study reported low levels of religious coping, which is in agreement with the findings of a previous study conducted among Muslim older adults (Henrie and Patrick 2014). However, due to the lockdown applied in Jordan during the COVID-19 pandemic and due to people therefore being unable to attend religious services, the older adults in this study had even lower religious coping levels than documented in previous studies (Eisazadeh et al. 2020). This finding supports the findings of a previous study, which reported a negative association between the religious coping of older adults and their religious service attendance (Bassett and Bussard 2018; Byrne and Morgan 2020). According to Islamic tradition, it is acceptable for Muslims to practice religious rituals, such as prayer, at home; however, attending congregational prayers at the mosque has been suggested by many studies as being a form of group coping therapy (Bolghan-Abadi Ghofrani and Abde-Khodaei 2014; Iqbal Zaman Karandikar Hendrickse and Bowley 2016; Padela Killawi Heisler Demonnerand Fetters 2011). Some studies have also suggested that in stressful events such as the death of a loved one, older adults experience religious doubt, which negatively impacts their religious coping (Henrie and Patrick 2014).

The older adults in this study reported low levels of spiritual well-being, which is consistent with previous studies which have investigated the association between spirituality and death anxiety (MacLeod et al. 2019; Solaimanizadeh Mohammadinia and Solaimanizadeh 2019). A recent study by Solaimanizadeh et al. (2019) found an adverse relationship between spirituality and death anxiety among older adults. Therefore, due to their high levels of COVID-19—related death anxiety, it was expected that our study participants would have low levels of spiritual well-being. Also, the participants' low levels of spiritual well-being may be explained by the low levels of life satisfaction and disturbed sense of the meaning and purpose of

life experienced by people during the COVID-19 pandemic, as reported by many studies (Zhang Wang Rauch and Wei 2020a, b).

Previous studies which have examined gender-based differences in death anxiety under non-pandemic conditions have shown women to experience higher levels of death anxiety than men (Azaiza Ron Shoham and Gigini 2010; MacLeod Crandall Wilson and Austin 2016). These studies relied on the emotional expressiveness hypothesis to explain their findings, stating that females are more aware of their feelings and more willing to acknowledge their fears explicitly than are males (Azaiza et al. 2010). In contradiction to these findings but consistent with the findings of a recent study by Dadfar Abdel-Khalek Lester and Atef Vahid (2017), the current study found male older adults to have higher levels of death anxiety than female older adults. This finding may be explained by the high COVID-19 morbidity and mortality rates among male older adults. According to recent epidemiology reports, the prevalence of COVID-19 infection is higher among males, especially those aged over 60 years (Edler et al. 2020; Shim Tariq Choi Lee and Chowell 2020). The crude case-fatality rate of COVID-19 increases with age, with male older adults being more likely to die from the disease than female older adults (Zhang Yu Tong Liu and Tang 2020a, b).

In the current study, female older adults had higher levels of religious coping than male older adults. This finding is consistent with previous studies, in which female seniors reported higher levels of religiousness than did male seniors (Garg Chauhan and Sabreen 2018; Handal and Lace 2017; Henrie and Patrick 2014). This finding is also consistent with terror management theory (TMT), which states that being male is positively associated with religious doubt and negatively associated with religiousness (Henrie and Patrick 2014). In the current study, this finding may be attributed to men being prevented from attending congregational prayers at the mosque due to the lockdown.

As with regards to the mean SWBQ score, female older adults, in comparison to male older adults, were found to have higher levels of spiritual well-being. This finding is consistent with the findings of previous studies (Alorani and Alradaydeh 2018; Martins Dias Domingues and Caldeira 2020; Musa Pevalin and Shahin 2016). For example, Martins et al. (2020) found that gender plays a significant impact on the spiritual well-being of cancer patients undergoing chemotherapy. These findings may be attributed to gender-based differences in life experiences, coping strategies, and social roles (Hammermeister Flint Alayli Ridnour and Peterson 2005).

In the current study, widowed older adults had significantly higher death anxiety levels than married older adults. This supports the finding of Khawar Aslam and Aamir (2013), which indicated that married older adults tend to often worry about dying and leaving their loved partner behind with no one to care for them. Meanwhile, widowed older adults have been reported to be less concerned about their own death (Waskowic and Chartier 2003). According to Momtaz Haron Ibrahim and Hamid (2015), widowed participants agreed that they had come to terms with their own death, and that they would be ready to die with the time came.

Predictors of Death Anxiety

In the current study and in line with previous studies, comorbid burden, spiritual well-being, and religious coping were significantly associated with death anxiety after controlling for gender and marital status. Solaimanizadeh et al. (2019) found a significant negative association between spiritual well-being and death anxiety. In comparison to people with low levels of spiritual well-being, people with high levels of spiritual well-being have been found to be more capable of controlling their feelings of pervasive anxiety associated with both the real and anticipated death of themselves or their loved ones (MacLeod et al. 2019). In other words, the higher the level of spiritual well-being that older adults have, the lower their level of death anxiety. When older adults are spiritually well, they experience positive feelings about their current stressful situation and a strong inner healing force (Soleimani Sharif Yaghoobzadeh Yeoh and Panarello 2018). According to Bakan Arliand Yıldız (2019), religious coping was found to be among the most important predictors of death anxiety in older adults. Holding strong religious views have been negatively associated with experiencing death anxiety (Bassett and Bussard 2018). Religious coping can therefore help protect individuals from death anxiety, which is consistent with terror management theory (TMT) (Vail et al. 2010). TMT hypothesizes that the leading role of religion is to help individuals relieve the anticipated anxiety associated with mortality salience, which refers to people's awareness of their inevitable mortality (Martins et al. 2020).

Further research which targets other population groups, such as college students and health professionals, is recommended. Also, further research is recommended in order to develop interventions which target death anxiety, impaired spirituality, and maladaptive religious coping strategies among older adults during the COVID-19 pandemic. Ongoing spiritual skills training for healthcare providers is essential in situations such as the COVID-19 pandemic, as it will allow healthcare providers to relieve the death anxiety and associated psychological distress experienced by older adults and their families. Therefore, spiritual skills need to be acknowledged as a core clinical competency for nurses and incorporated in nursing curricula. Further, it is highly recommended that chaplains and imams provide in-hospital religious services for older adults diagnosed with COVID-19. Finally, mosques and churches are encouraged to maintain their contact with believers during the COVID-19 pandemic using advanced technologies and the public media.

Limitation

This study used a convenience sampling technique, which may limit the external validity and therefore threaten the generalizability of the results. Further, instances of miscommunication may have occurred during the process of collecting data over the phone and then using the data to fill in the participants' questionnaires.

Conclusion

The current study confirmed the significant association of death anxiety with spiritual well-being and religious coping in older adults during the COVID-19 pandemic. Therefore, there is an urgent need for future studies which assess and evaluate older adults' spiritual and religious needs and which implement intervention programs, in Jordan and in other countries, to target older adults' death anxiety during the COVID-19 pandemic.

Funding Funding was provided by Jordan University of Science and Technology (Grant No. 20200449).

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