

# The Translation of Perinatal Anxiety Screening Scale (PASS) into Arabic

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# Abstract

Background: early detection of perinatal anxiety using appropriate measures helps in reducing maternal and fetal complication. WHO guidelines for instrument translation and adaptation provide rigor and transparent method for Perinatal Anxiety Screening Scale (PASS) translation and expand the knowledge in diversity cultural contexts. Aim: to describe the process of cultural adaptation of the PASS into the Jordanian context based on the WHO framework for instrument translation and adaptation. Methods: PASS was completed by a convenience sample of 31 pregnant women. In which PASS went through WHO framework for instrument translation and adaptation process includes forward translation, expert panel, blind back translation, pre testing and cognitive interview, and the final version is ready for piloting. Some comments were added to three items by five expert panel, then the modified version was ready for piloting. Result: the internal consistency reliability of PASS was 0.869 and five experts who reviewed PASS confirmed the scale appropriateness and clarity after a slight modification to three items. Participants found PASS in general easy to complete but some of them found difficulties in understanding two items located in the Perfectionism, control and trauma subscale where they need an explanation of their meaning to answer them. Conclusion: using WHO guidelines for instruments translation considered a rigorous method and revealed that PASS is reliable and valid tool to be used within the Jordanian context to measure perinatal anxiety. However, the focus on explaining items 11 and 14 to participants is important due to difficulty in understanding their meaning.

# **Keywords**

Perinatal Anxiety Screening Scale (PASS), WHO Translation Guidelines,

Arabic Translation, Jordan, Reliability, Validity

# **1. Introduction**

According to the center of mental illness (2014) perinatal mental illness (depression, anxiety, and psychosis) affects women and their families negatively and is considered one of the main causes of maternal mortality during pregnancy or during the first year postnatal. Perinatal mental illness cost reaches £8.1 billion where 28% of this cost related to maternal complications and loss of productivity and 72% related to child health including the cost of preterm birth before 37 weeks as one of many negative consequences of maternal perinatal mental illness [1]. Anxiety during perinatal period presents in many forms; for example, panic disorder, anxiety disorders, pregnancy specific anxiety, social phobia, and obsessive compulsive disorder that pregnant women could have during pregnancy and postnatal period but there is lack of awareness about this variation [2].

Pregnancy specific anxiety differs from other types of emotional stress during pregnancy. Pregnancy specific anxiety is defined as a certain emotional state that is linked particularly to pregnancy status and it is an interrelation between women general emotional state and their pregnancy condition [3]. Pregnancy specific anxiety is considered a multidimensional and complex construct; it is subjective and affected by various factors such as trait, individual characteristics and environmental influences [3]. Pregnancy specific anxiety is related to pregnancy itself, childbirth process [4], medical problems occurring during pregnancy, first time mothers, and concerns about babies' health particularly after suffering of infertility or experience of both stillbirth and previous negative experience. Beside the labor pain, maternal health, financial problems, unplanned pregnancies and lake of social support play an important role in developing perinatal anxiety [3].

The overall prevalence of anxiety during pregnancy worldwide is 15.2% [5]. However, the prevalence of it varies in the studies because of different associated factors, diversity of the used tools, geographical area, study designs, the definitions that were used and interval of assessment or pregnancy trimesters. In a systematic review, it was found that the prevalence of anxiety during pregnancy is almost equivalent in first and second trimesters (18.2% and 19.1%) where it reached 24.6% in the third trimester [5].

Pregnancy specific anxiety affects fetal development negatively through affecting sympathetic nervous system function [3]. It is also has been associated with fetal growth restriction, low birth weight, low Apgar score, and breastfeeding difficulties [5] [6]. It is also in the long run affects children behavioral and emotional development negatively, where women with pregnancy specific anxiety particularly during early weeks of gestation are at higher risk to have children with attention deficit hyperactivity disorder, difficulties in attention, and cognitive disorder [5] [7] [8].

Anxiety during pregnancy is independent construct from depression itself; however it can be comorbid with depression and it considers as indicator for depression and anxiety during postnatal period [4] [9]. Anxiety during Pregnancy should be assessed according to the severity on multiple points of time; because pregnancy accompanying to some degrees of anxiety that is related to physical, physiological and emotional changes and it increase as pregnancy progress and birth date approaches [10].

The problem in the clinical screening of anxiety during pregnancy is related to lake of clinical experts in addition to identifying proper screening tools that are suitable to use. Accurate screening and early detection needs validation of perinatal anxiety measures [11]. A systematic review revealed that in most of the studies, pregnancy specific anxiety was measured with general anxiety tools. Those tools were criticized as being narrow in scope and not adequately assessing pregnancy specific anxiety, in addition to not using clear operational definition [4]. Another systematic review supported that using general anxiety measures in identifying problematic anxiety during pregnancy is described as measures with inadequate psychometric characteristics [12]. For example, despite that State Trait Anxiety Inventory (STAI; Spielberger, 1983), was mentioned as widely used tool to assess anxiety in clinical and research areas; it does not reflect screening for specific types of anxiety such as pregnancy specific anxiety and it lacks anxiety items related to pregnancy [4]. Other tools like Crown Crisp Index (CCI) and Beck Anxiety Inventory (BAI) contain some items that are considered as indicators of discomforts during pregnancy such as nausea and vomiting or shortness of breath [4]. Other pregnancy anxiety measures were not designed to measure the anxiety aspects that are specific for pregnancy or postnatal but they assess fear related to babies' health and birth process [2]. These measures include Pregnancy Anxiety Scale (PAS), Pregnancy Related Anxiety Scale (PRAS), and Pregnancy Related Anxiety Questionnaire (PRAO) where they characterized in narrow scope compared to Perinatal Anxiety Screening Scale (PASS) that reflect broader domains and covering wider aspects and types of perinatal related anxiety and its problematic symptoms [2]. Taking into account the limitation of using scales in its initial development stages such as Pregnancy-related Anxiety Scale that developed by Brunton and colleagues where it encompass some of reverse scored items that lead to poor internal consistency reliability [13]. So, the continuity of using such measures leads to overlook some women who are considered at risk [12].

Accordingly, this leads to inconsistence findings about the prevalence of pregnancy specific anxiety not just because of lack of recognition about pregnancy specific anxiety but also because of using measures that lack psychometric proprieties [4]. In Arabs countries like Jordan, anxiety during pregnancy was investigated using general anxiety scales that are used based on their widespread and not particularly to measure pregnancy specific anxiety. Despite the im-

portance of screening for anxiety during pregnancy to reduce its negative effect, there is no formal screening method [4]. It is important for researchers to identify pregnancy specific anxiety from other anxiety forms through using the right operational definition and selection of appropriate tools. In which providing early and accurate assessment of perinatal anxiety is considered the first step in prevention and thus taking serious steps in applying strategies to manage it [4]. Accordingly, there is a need to translate a well-developed pregnancy anxiety scale and to investigate its feasibility, utility, literacy congruency, and acceptability through using sound evident and rigor framework to confirm that the borrowed instruments are suitable in different contexts and cultures and to carry the advantages for mothers and their children.

Perinatal anxiety screening scale (PASS) is a self-report questionnaire that was developed by Somerville and colleagues in 2014; it consists of 31 items. Perinatal Anxiety Screening Scale (PASS) is specific for perinatal period that is valid and reliable tool (Cronbach's  $\alpha = 0.96$ ) and had four subscales with high reliabilities that range from Cronbach's  $\alpha = 0.86$  to 0.90 [2]. It is broad in the scope and includes women's some common fears to detect problematic anxiety and it is easy to complete. This scale differentiates high risk and low risk problematic anxiety with cutoff point 26 and can be used during pregnancy and postnatal period. Perinatal Anxiety Screening Scale (PASS) four subscales are 1) Excessive Worry and Specific Fears, 2) Perfectionism, Control and Trauma, 3) Social Anxiety, and 4) Acute Anxiety and Adjustment [2].

A systematic search was performed in the Cumulative Index to Nursing and Allied Health Literature (CINAHL), pub med, Medline, PsycINFO and Google scholar using Key Words Perinatal Anxiety Screening Scale (PASS) translation, adaptation, pregnancy anxiety, and cross culture. The search revealed that Perinatal Anxiety Screening Scale (PASS) was validated and used in three different settings only that were Turkey with high Cronbach Alpha 0.95 and it ranges from 0.82 to 0.93 for the subscales [14], India with no information about psychometric properties [15], and Bangladesh with high internal consistency reliability (Cronbach's Alpha 0.97) and satisfactory test retest reliability that was 0.83 [16]. Turkish version of Perinatal Anxiety Screening Scale (PASS-TR) reveals significant positive correlation with Beck Anxiety Inventory, Hamilton Depression scale, and Hamilton Anxiety Scale and it is considered valid and reliable to be used in Turkish context but with different cut points that is 16 instead of 26 [14].

Availing the Perinatal Anxiety Screening Scale (PASS) for health care providers, researchers, and students for screening pregnant women who are at risk for developing perinatal anxiety provide a valid and reliable tool for developing appropriate protocol and preventive measures. Thus, the aim of this research is to describe the process of transcultural adaptation and translation of the perinatal anxiety screening scale (PASS) into the Arabic language and context while following WHO guidelines for translation and adaptation of research instruments [17].

## 2. Methods

WHO framework for instruments translation and adaptation was strictly followed in this study [17]. This approach was developed by WHO as standardized protocol to provide rigorous methodological strategy in transcultural adaptation of tools among the target population. Because translation considered a methodological issue; the researchers need to assured good quality translated version of various tools. Despite WHO translation guidelines have proven efficient and acceptable approach in many studies with various instruments [18] [19], specific standards for health tools translation were rarely followed and many researchers assumed consistency in psychometric properties for the translated versions [20]. This approach consists of five steps; forward translation, expert panel, blind back translation, pre-testing and cognitive interview, and pilot testing for the final version [17]. Those guidelines were developed mainly to ensure conceptual equivalence rather than literal or linguistic translation of any given research instrument.

## 2.1. Sample and Settings

This study is part of a PhD dissertation that aimed to measure prenatal anxiety among Jordanian women in south of Jordan and the sample was selected to be representative to the original sample. So, this study targeted Jordanian pregnant women in their second and third trimesters whereas birth date approaches the anxiety level increase. The study took place in two primary public hospitals in main city in the southern region of Jordan. Women were invited to participate in the study by a word of mouth from the researcher while they were visiting the maternal health clinic as a routine follow up during their pregnancy. A convenience sample of thirty-one women was recruited to participate in the study. During recruitment women were briefed about the study purpose, voluntary participation, benefit and risks, and procedure for data collection. Women who were Jordanian, speak Arabic language, age between 18 to 45, primiparaous or multiparous, in their second and third trimester, and were identified as low risk pregnancy were eligible to participate in the study. However, according to WHO frame work for instrument translation and adaptation, in pretest and cognitive interviewing step, the sample must include participants who work in maternal health field who should test the translated instrument. Therefore, the researcher invited health care providers who work in the maternal department in the targeted hospitals to participate in this study through invitation letter. Those who agreed to participate in the study provide researcher with written informed consent and they were met in a private room in the same antenatal clinic. Then they were informed in details about the nature of the study that they were asked to complete Perinatal Anxiety Screening Scale (PASS) questionnaire and they were informed to debrief any difficulties in the questions, unclear items, unsuitable expression, and words misunderstanding.

The sample size was determined based on that pilot sample size should be 10% of the proposed total sample size of the large project [21].

# 2.2. Procedure for WHO Translation and Adaptation of Perinatal Anxiety Screening Scale (PASS)

#### **Forward Translation**

Forward translation to Arabic language was performed by the principle researcher who is proficient in English. The focus of translation was on conceptual rather than literal translation of the phrases taking into account the original definitions, using clear, simple and concise words in questions formatting. The items were then presented it in the Arabic language in a natural and acceptable way for the targeted audience.

#### **Expert Panel**

The translated tool was reviewed by 5 panel of experts; those experts were faculty members in respectful national universities in Jordan. Those members are selected according to WHO framework for instrument translation and adaptation guidelines that the expert panel should be experts in health. So, the experts were candidates to participate in this study based on their qualifications in maternal and child care in schools of nursing from the main public universities in Jordan, have experience in instrument development, and some of them work in gynecological and obstetric clinics.

All experts are bilingual and speak both English and Arabic languages fluently; all experts reviewed the Arabic Perinatal Anxiety Screening Scale (PASS) translation and compared it with the original English version to check words clarity, appropriateness of concepts, editing the sentences and expression adequacy. Suggestions included slight modifications to some items that were made after discussion and reaching consensus. Finally, the modified and approved Arabic translated version was reviewed by Arabic language teacher to ensure freeness from typology errors in addition to any correct language use.

#### Blind back Translation

Back translation to the English language was performed by bilingual independent translator who is another faculty member in a national university in Jordan. An independent specialist in English language reviewed the English back translated version and compared it to the original English version; the comparison focused on any discrepancies in the language and the translation process between the two English versions. Furthermore, the focus of comparison was mainly on conceptual equivalence rather than on semantic translation. No significant discrepancies were detected in the translation process and discussion was carried many times to prevent any confusion during translation.

#### Pretesting and Cognitive Interview

Ethical consideration: the approval to conduct this research was obtained from the institutional Review Boards (IRB) of the University of Jordan, Ministry of Health, and the targeted hospitals.

Perinatal Anxiety Screening Scale (PASS) was administered to the participants where some of them work in the field of maternal health. After the participants answer Perinatal Anxiety Screening Scale (PASS) questionnaire in a private room in the hospitals they were debriefed in focused group about their opinions of the questions and whether if they had particular terms for the items beside if they can repeat the items in their own words. In which the researcher provided all participants with opportunity to express their opinions freely starting with the first item to the end of all items by order. Then their responses in debriefing about items were compared to the actual responses of the questionnaire to check consistency. The researchers also asked the participants about any words or items that they can't understand. However, no significant alternatives were made in the words or expression of the items. Three version of iterated Arabic Perinatal Anxiety Screening Scale (PASS) was resulted until reaching the final version.

## 2.3. Data Analysis

Data were screened for completeness before entering the computer program, and were checked for correct coding. The analysis was performed by using Statistical Package for Social Science (SPSS) version 22, then internal consistency reliability was calculated using an alpha level of 0.05. The descriptive statistics was used to describe sociodemographic variables of study participants.

# 3. Result

The Expert panel reviewed Perinatal Anxiety Screening Scale (PASS) after forward translation of the original version where the translation of Perinatal Anxiety Screening Scale (PASS) was improved for three items to provide more accurate expression and change some words to make it relevant for the Jordanian women. After the participants completed the final version of Perinatal Anxiety Screening Scale (PASS) the data were analyzed using descriptive and inferential statistics with SPSS version 22.0.

# Sample Characteristics

Thirty-one women participated in the pilot testing phase. The mean age was 29 years ( $\pm$ 5.98) old where most of them 41.9% had bachelor degree (n = 13) followed by 38.7% had secondary education or less (n = 12), 16.1% had diploma degree (n = 5) and 3.1% was postgraduate (n = 1). Monthly income for the sample ranges from 200 to 600 Jordanian dinar where 54.8% of the sample were employed (n = 17) and 45.2% were unemployed (n = 14). All women in the sample had no medical problems or complications where 58.1% had planned pregnancy (n = 18) and 41.9% of the sample had unplanned pregnancy (n = 13). The majority of the sample 58.1% were multipara (n = 18) and 41.9% were primiparous (n = 13). The percentage of women who were in the second trimester was 58.1% (n = 18) and the percentage of women in the third trimester was 41.9% (n = 13). Sample characteristics are presented in **Table 1**.

As shown in **Table 2**, the internal consistency reliability of the whole scale of the Arabic Perinatal Anxiety Screening Scale (PASS) was acceptable (Cronbach alpha 0.869). However, the Cronbach alpha for subscales 1) Excessive Worry and Specific Fears, 2) Perfectionism, Control and Trauma, 3) Social Anxiety, and 4) Acute Anxiety and Adjustment) were 0.684, 0.734, 0.733, 0.825 respectively.

Sample Characteristics	Number	Percentage
N = 31 Participants	Ν	%
Education		
Secondary school or less	12	38.7
Diploma	05	16.1
Bachelor	13	41.9
Postgraduate	01	03.1
Occupation		
Employed	17	54.8
Unemployed	14	45.2
Planned Pregnancy		
Yes	18	58.1
No	13	41.9
Parity		
Primiparaous	13	41.9
Multiparous	18	58.1
Pregnancy Trimesters		
Second trimester	18	58.1
Third trimester	13	41.9

**Table 1.** Sample characteristics (N = 31).

 Table 2. The Internal consistency reliability of the Arabic Perinatal Anxiety Screening

 Scale.

Perinatal Anxiety Screening Subscales	Cronbach Alpha ( <i>a</i> )
Excessive Worry and Specific Fears	0.684
Perfectionism, Control and Trauma	0.734
Social Anxiety	0.733
Acute Anxiety and Adjustment	0.825
Perinatal Anxiety Screening Scale	0.869

# Problems Found during the Pilot Study

Some of the pregnant women in the sample point out that they found some difficulties in understanding some items where they asked the researcher about the meaning of those items. These two items are located in the perfectionism, control and trauma subscale and their number are 11 and 14 where the participants need explanation to answer them. In which the item 11 state: Having to do things in a certain way or order and the item 14 state that there is difficulty stopping checking or doing things over and over. However, the participants understand those items after some explanation from the researcher. The difficulty in understanding those items is related to women unfamiliarity with these points as they are related to symptoms of sever anxiety (obsessive compulsive) beside to

low educational level that is women who reported some difficulties in understanding these two items had diploma or secondary school education and less. However, women who had bachelor degree or higher found Perinatal Anxiety Screening Scale (PASS) easy to answer and taking short time to complete it.

## 4. Discussion

This paper is connected to a large doctoral dissertation conducted in the south of Jordan and its significance is in providing transparent process in translation of Perinatal Anxiety Screening Scale (PASS) from English to Arabic language to screen and detect women who have prenatal anxiety. In this paper, the reliability and validity information of Perinatal Anxiety Screening Scale (PASS) the Arabic version also presented and this helps to transfer knowledge to a large area.

Somerville and colleagues in 2014 investigated the psychometric properties of Perinatal Anxiety Screening Scale (PASS) where test-retest reliability was obtained for subsample of women who participated in the study and complete Perinatal Anxiety Screening Scale (PASS) in antenatal and postnatal period. The correlation coefficient was 0.74 which reflect stability and acceptable test-retest reliability [2]. Convergent and discriminant validity also was studied through calculation of Pearson product moment correlation coefficient between Perinatal Anxiety Screening Scale (PASS) total scores and other scales that measures anxiety and depression which are Edinburgh Postnatal Depression Scale (EPDS) [22], Depression, Anxiety and Stress Scale 21 (DASS 21) [23], Spielberg State-Trait Anxiety Inventory (STAI) [24], and Beck Depression Inventory-II (BDI) [25]. The result revealed that Perinatal Anxiety Screening Scale (PASS) was correlated significantly with BDI and EPDS overall scores. Perinatal Anxiety Screening Scale (PASS) total score also correlated significantly with STAI-State and trait, anxiety and stress subscales of DASS and EPDS anxiety subscale, but it acts better in detection of perinatal anxiety than EPDS and it was a little better than STAI-State too [2]. Internal construct validity was also confirmed through moderate subscales correlation that ranged from (0.40 to 0.51) [2]. Perinatal Anxiety Screening Scale (PASS) overall internal consistency reliability was 0.96 and this reflects excellent value. The subscale reliability ranged from 0.86 to 0.90 [2]. Perinatal Anxiety Screening Scale (PASS) four subscales were identified through principal factor analysis and the cutoff point (26) and diagnostic veracity was specified by receiver operating characteristic (ROC). At this cut point, women with anxiety problems could be identified and provided with appropriate referral [2].

In Bangladesh Yasmin and Islam (2018) conducted a cross sectional study to adapt Perinatal Anxiety Screening Scale (PASS) in Bangla language and to demonstrate its psychometric properties. The authors followed Sousa and Rojjanasrirat (2011) guidelines for translation and they found that internal consistency reliability for Perinatal Anxiety Screening Scale (PASS) Bangla scale was 0.970 which reflect excellent value. Test retest reliability also was studied on 15 days interval and reflected significant correlation where Pearson coefficient was 0.830 (p < 0.01) and that confirmed Bangla Perinatal Anxiety Screening Scale (PASS) constancy. Principal analysis also was performed to test the internal correlation between items and the result was congruent with the original study where four factors (acute anxiety, general worry and specific fears, perfectionism control and trauma, social anxiety) were emphasized [16]. Bangla Perinatal Anxiety Screening Scale (PASS) scores were correlated positively and significantly with Bangla anxiety and depression scales (r = 0.872, r = 0.750) respectively that enhance discriminant validity [16].

Another study conducted by Yazıcı and colleagues (2018) to investigate psychometric properties of Turkish version of Perinatal Anxiety Screening Scale (PASS-TR). The authors didn't follow rigor and specific guidelines for translation process. However, they depend on forward translation, back translation, and appraisal by a group of experts and the original authors. The findings revealed that Turkish version of Perinatal Anxiety Screening Scale (PASS-TR) are reliable and valid where the internal consistency reliability was 0.95. Although Turkish version of Perinatal Anxiety Screening Scale (PASS-TR) contains the same items of the original Perinatal Anxiety Screening Scale (PASS) there was slight modification regarding the headings of the subscales that congruent with the same item arrangement. In which general anxiety and specific fears for first factor, perfectionism and control for second factor, social anxiety, general anxiety and adjustment difficulty for third factor, and the forth factor was acute anxiety, dissociation and trauma [14].

Different cut point of Turkish Perinatal Anxiety Screening Scale (PASS-TR) was identified to be 16 instead of 26 because of cultural sensitivity of women regarding expressing their emotion and feelings. Turkish version of Perinatal Anxiety Screening Scale (PASS-TR) exhibited significant correlation with Hamilton anxiety and Beck anxiety scales but it manifested higher sensitivity and specificity toward perinatal anxiety symptoms. However, the authors did not classified women with anxiety in degrees or range of scores and test retest reliability was not included [14]. On the other hand, Thomas and colleagues (2015) used Perinatal Anxiety Screening Scale (PASS) to investigate prenatal anxiety and the factors associated with it in India; however, they didn't mention any details about Perinatal Anxiety Screening Scale (PASS) translation process. In which translation, back translation to the original language and piloting were performed without any indication about Cronbach alpha value [15].

The study result is congruent with the previous studies findings [14] [16] that Perinatal Anxiety Screening Scale (PASS) is valid and reliable and exhibit acceptable internal consistency reliability in Arabic context, however some variation was found in understanding some items among certain group of women as presented in the result section. In which one of the main population differences that affect instrument performance negatively is the level of education of the participant and it did not reflect failure in the adaptation process of Arabic Perinatal Anxiety Screening Scale (PASS) [26]. It is documented that translation of descriptive item that manifest specific symptom is easier as compared to cultural construct translation but the familiarity with these symptoms vary among cultures [27]. However, there is a common challenge related to semantic language in the development of an instrument which represented to have some words in the tool that include some ambiguity in the meaning such as the word "things" that is presented in these two items [19] and it is better to contact the original authors and to discuss this issue in details to make more suggestions or appropriate alternatives to improve Perinatal Anxiety Screening Scale (PASS).

Perinatal Anxiety Screening Scale (PASS) could be improved through conducting two piloting after translation as recommended by Gudmundsson (2009) who confirmed that the first pilot includes identifying items meaning, difficulty items, wording and administration instructions and scoring. The second piloting includes the assessment of the modified version based on the revision of first piloting findings [28]. Hence, the translation and adaptation process of Perinatal Anxiety Screening Scale (PASS) was performed by highly educated, bilingual, and qualified experts; it may be difficult that less educated or lay people to understand it [19]. So, it is important that in the process of translation and adaptation of Perinatal Anxiety Screening Scale (PASS) to include more than one focus group that include diversity of people with different back ground, educational level, and socioeconomic class or different geographical area [19] [29]. These focus groups should be managed with a group of experienced researchers in focus interviews to make in depth propping with open discussion and reflection to reach to more comprehensive information that could improve the translation of these two items in Perinatal Anxiety Screening Scale (PASS). Also Perinatal Anxiety Screening Scale (PASS) could be improved through involving of clinicians or psychiatrists in the working team who are experts in obsessive compulsive disorder to suggest appropriate alternatives for such items that represented its symptoms. Then, it is important to view team and participants perspectives about the Perinatal Anxiety Screening Scale (PASS) to compare the similarity and contradicting areas in the translation process [19].

In advance stages advisory committee or multidisciplinary review can be formed to evaluate Perinatal Anxiety Screening Scale (PASS) translation process and to provide more suggestions and alternatives to improve the Arabic Perinatal Anxiety Screening Scale (PASS) while achieving conceptual equivalence [27], taking into consideration that any changes in the items could alter psychometric properties of the instrument that needs a larger sample size to ensure enough variance of data to perform further statistical analysis [30]. Validity studies are required at this stage on the target population particularly criterion related validity and discriminant validity [28]. Adaptation of any instrument considered the primary step to make further testing and thus improving the effect of the questionnaire [30]. However, if the adaptation process is finalized with some problematic items that can't be improved after multiple testing and extensive works then the experts can decide to construct new item that measure specific domain and these changes success can be tested through empirical data on construct validity [28].

# **5.** Conclusions

Arabic version of the Perinatal Anxiety Screening Scale (PASS) manifested good internal consistency reliability (cronbach alpha = 0.869) and the Cronbach alpha for subscales: 1) Excessive Worry and Specific Fears, 2) Perfectionism, Control and Trauma, 3) Social Anxiety, and 4) Acute Anxiety and Adjustment) were 0.684, 0.734, 0.733, 0.825 respectively.

The study strengths are represented in using rigorous method to translate Perinatal Anxiety Screening Scale (PASS) to Arabic language such as WHO (2005) framework for translation and adaptation of instruments which is very important to confirm conceptual and cultural suitability of various tools in diversity contexts. In this study Perinatal Anxiety Screening Scale (PASS) was translated to Arabic language which considered the primary step to build on it further psychometric properties testing. This study also recognized the problems that could face the researcher during administration or testing the Perinatal Anxiety Screening Scale (PASS) the Arabic version.

A limitation of this study is using convenience and small sample size (n = 31). However, it is conducted as a part of large project for the purpose of translation of Perinatal Anxiety Screening Scale (PASS) and to use it within an Arabic culture to collect data from Jordanian participants living in south of Jordan where there is no particular scale exists to measure perinatal anxiety specifically and general anxiety scales had been used to detect it in most studies in Arabic countries. Distraction of participants because of the presence of the researcher is also considered a limitation in this study. However, it is recommended to conduct more comprehensive study to test Perinatal Anxiety Screening Scale (PASS) psychometric properties that includes factor analysis, test-retest reliability on different points of times (prenatal and postnatal period), and using comparison group of women who are not in perinatal period beside investigation of criterion related validity with a large sample.

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# **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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