

Development of Life Stressors Scale for Peptic Ulcer Patients in Pakistan: Disease Specific Scale!

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Abstract

Objective: To develop Life Stressors scale for peptic ulcer patients in Pakistan.

Method: A Cross-sectional study was done with four stage model of scale development conducted at Lahore, Rawalpindi and Islamabad Pakistan from March 2020 to February 2021. Scale was developed in which four stages of scale development include: Item generation, expert validation, pilot study and psychometric study. Sample consists of peptic ulcer patients with age range between 18-60 years.

Results: Total 125 patients were taken in which there were 62 (49.6%) males and 63(50.4%) females. Overall mean age range was 34 years. Exploratory factor analysis with varimax rotation was done. Total 18 items were revealed with two subscales, Somatic problems and social disruption with high internal consistency($r=.84$).

Conclusion: It will helpful to measure the stressors of the patients having peptic ulcer as researches proves that life stresses are one of the major cause of this disease. It will further help the clinical psychologist to work on those stressors so the adverse effects of peptic ulcer can be minimized.

Keywords: Life stressors; Peptic ulcer patients; Gender; Age; Reliability

Introduction

Ulcers are sores that heal slowly and found in many forms and can appear both on the inside and the outside of the body. Stomach ulcer is also named as gastric ulcer. They are basically painful blisters on the lining of stomach and are one of the types of peptic ulcer as peptic ulcer affects both stomach and small intestine (Johnson, 2018). Peptic ulcer is mucosal lesion of the stomach or duodenum in which major pathogenic role was played by acid and pepsin. Three forms of peptic are; Gastric ulcer that rises on the inner part of the stomach, esophageal ulcer develops on the inside of the esophagus and duodenal ulcer develops on the upper part of small intestine. Two main types of peptic ulcer include gastric and duodenal ulcer that are majorly affected by Helicobacter pylori, non-steroidal anti-inflammatory drugs (NSAIDs), physiological stress and smoking [1]. People with peptic ulcer mostly experience burning abdominal pain that spreads from naval to chest. It also comprises change in appetite, nausea, bloody or dark stool, weight loss, digestion problems, vomiting and chest pain. Two types of tests are usually done to detect peptic ulcer, one is endoscopy and other is chain of upper gastrointestinal tests.

Throughout the world numbers of researches have been conducted on peptic ulcer patients that show that stress is one of the leading causes of peptic ulcer beside Hpylori bacteria. Life stress increased the possibility of consequent confirmed peptic ulcer in a population-based cohort without a history of ulcer at start. Research found that socio economic status does not fully explain the risk of having peptic ulcer neither non-steroidal anti-inflammatory drugs nor smoking, stress is involved for the portion of increased risk on health. Stress affected H pylori-related ulcers at least as much as those related to neither H pylori nor no steroidal anti-inflammatory drugs. Result of the study supported a multi-causal model of peptic ulcer etiology with intertwined biological and psychosocial components [2].

Levenstein et al. (2015) conducted research in which they explored the link between psychological stress and peptic ulcer disease among the patients who were already using nonsteroidal anti-inflammatory

drugs. The results of this research found that psychological stress served as a risk factor among the patients and these stressors increases the occurrence of peptic ulcer disease despite nonsteroidal anti-inflammatory drug usage. Moreover, stress was also found as a risk factor for the growth of H pylori infection among peptic ulcer patients [3].

Overmier and Murison. (2013) through research explored the role of stress in peptic ulcer female patients. This research was a comparative study in which peptic ulcer patients who were taking stress inoculation training were compared with those who were not taking any sort of stress management training. Research was conducted on school female teachers and the results found that the perceived stress was comparatively more among the peptic ulcer patients and the stress inoculation training proved an effective role in managing that stress so the stress inoculation training can play a vital role in controlling the perceived stress among the peptic ulcer patients. Siddique (2014) conducted research in which a wide variety of patients who have been suffering from peptic ulcer disease were recorded. The socio-economic conditions and the educational levels of the patients suffering from peptic ulcer disease were found to be under par. Additionally, it was found that the patients who had a family history of the disease, stress, and hypertension were affected a lot [4]. The results found that the lack of awareness regarding the disease, its possible consequences, and treatments appeared to be the contributing elements in aggravating the peptic ulcer disease in Bangladesh. The research was done to explore

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the role of stress in causing peptic ulcer diseases so the research aimed to find out the relationship between coping strategies and peptic ulcer disease. The results of the study found that the emotional and negative strategies in stressful circumstances can cause peptic ulcer disease as people suffering from peptic ulcer disease uses emotion-focused strategies like re-evaluation adjustment and they utilize avoidant coping more as compared to healthy people [5]

Peptic ulcer in our community is a prevailing issue and it can occur in any age group and number of psychological issues such as stress, life styles changes, dietary changes are linked with this medial ailment. Although exact prevalence of peptic ulcer in Pakistani population is not known but prevalence of H pylori bacteria is 50-90% (Mehmood et.al, 2014) in Pakistani population which plays a major role in causing peptic ulcer. Stress is leading cause beside H pylori bacteria so it is very important to identify the stressors the patient is having due to which his or her disease got worse and try to reduce them. It will also help the clinicians to identify that along with medication, patients require stress education or treatment plan in the therapy to get better results. Stress is co factor in the growth of ulcer so screening out the factors that cause stress is vital. There are tools to measure distress in patients like Depression Anxiety and Stress scale [6] and Hospital Anxiety Scale etc, but a disease specific scale has not been developed yet. Therefore the major objective of this study was to identify the life stressors of peptic ulcer patient in Pakistan and to develop a reliable and valid scale for this purpose because timely assessment leads to better intervention.

Subject and Methods

Cross sectional study was conducted by using four stage model of scale development at Lahore, Islamabad and Rawalpindi from March 2020 to February 2021 compromising of peptic ulcer patients. Purposive sampling technique was used to collect the sample along with snow ball sampling because during Corona times limited number of patients used to visit hospital. Patients with severe medical illness were not included in the sample.

Phase one is very important phase of scale development as phenomenology was explored. For the purpose of exploring phenomenology in depth interviews were conducted to the patients who are diagnosed with peptic ulcer or have symptoms of peptic ulcer disease. Participants were asked a general question "what they think that people who suffer from peptic ulcer, what sort of life problems they have to face because of this disease?" for that purpose first permission was taken from the participants and also briefed them about the major agenda behind the study. Participants were ensured that their privacy will be maintained. Semi structured interview was taken in which Open ended questions were asked from them and responses were gathered. Responses were noted in the verbatim of patients. Total 20 interviews were taken for this purpose with age range 18 to 60 years and a list of 40 problems were prepared. All those items that were dubious, vague or overlapping were merged. After that researcher make list of responses and converted them into items to develop a scale. A final list of 24 problems was collected and given the name of Life Stressors Scale for Peptic Ulcer patients (LSS) [7].

Phase 11 was expert validation. In order to gather empirical validation of the final list of life stressors ten professional clinical psychologist having professional experience of more than three years were informed about the purpose of the research. Life stressor scale for peptic ulcer patients was given to them to make sure the appropriateness of the items and measuring the main issue. They were asked to rate the stressors from 0 to 4 point rating scale, ranging from 0= never to

4 = extreme. By the end of this stage all the items were arranged in descending order on the basis of their frequencies as rated by experts. Experts reviewed the scale thoroughly and gave opinion that all items were fine and measuring the stressors accurately. So a final list of 24 stressors was retained [8].

In Phase 111 reliability of scale was done to assess is the scale was user friendly or not for peptic ulcer patients. This phase tells about the feasibility of research project and reliability of items. For that almost 20 participants having peptic ulcer were taken and forms were filled in order to know the reliability and validity of scale that was developed. Participants were also asked to give their feedback that items were easily understandable or not. Pilot study shows that scale was user friendly and items were clear and understandable. Average time to complete the scale was 4 to 5 minutes [9].

In last phase exploratory factor analysis (EFA) was done along with Chronbach alpha of the scale, inter factor correlation, test re test reliability, Split half reliability, face validity and t test was also performed with family system [10].

Results

Out of 125 peptic ulcer patients there were 62 males (49.6%) and 63 females (50.4%). participants average age is 34 years and duration of disease is almost 4-5 years.

EFA was done with varimax rotation. Kaiser-Meyer-Olkin (KMO) and Bartley test was also applied to check the adequacy of the data. The value of KMO was .72 and Bartley test was .00 that shows that data is adequate for factor analysis. Factors whose Eigen value is greater than one will be retained. Factor analysis that was used to run principle component factor analysis was exploratory factor. Principle component factor analysis was run for 2, 3 and 4 factors with Varimax rotation [11].

Factor solution .2 gave fewer cross loading after the factor loading .4 was used for factor extraction. Finally factor solution .2 was finalized as it gives comprehensible picture of the themes formed in this scale. One factor was dubious so it was discarded as shown in Table 1. The scale had two factors with 18 items scored on four point likert scale. For factor description factors were named and given label on the basis of commonality of items after close examination of the items conforming to each factor and theme.

First factor was "Somatic Problems". Items included in this factor describe the physical and bodily symptoms of patients having peptic ulcer. This factor includes items like feeling of tiredness and irritability due to heartburn, feeling down and having nausea, can't do work due to pain, difficulty in digesting food, pain in legs, become aggressive without any reason and feeling sad because of financial issues.

Second factor was "Social Disruption". Items included in this factor are related to social disturbance and problems like feeling down because of bad health, practice caution in taking food and drink, can't eat food of their choice, not able to go to parties, fear of tasting anything new, fear of deteriorating health, feeling of sadness after seeing other people enjoying life and keeping medicine all the time.

A significant correlation was found between the factors of Life Stressors Scale for Peptic Ulcer Patients and its factors have high internal consistency that shows that both factors are distinct and have independent nature.

Test re test was also done. Result of test re test reliability is ($r=0.91$)

that shows that it is a reliable scale to measure life stressors of peptic ulcer patients.

Test Retest reliability was calculated by retesting 10 participants that have filled the scale previously, with the gap of almost one week and then results were compared. The results showed that there is a high correlation (** $p < .01$, $r = .91$), that reveals that test re test reliability of life stressor scale is highly significant.

Split half reliability was also calculated in which Odd and even method was used to determine the split half reliability of the scale. For this purpose researcher divide the items into two groups as Group A and Group B depending on the decreasing order of factor loading into two parallel forms. After the analysis value of Guttman Split half coefficient for overall scale was .84 and Chronbach Alpha reliability of Form A was .70 and form B was also .70 that illustrates that Life Stressors Scale for Peptic Ulcer Patients is highly reliable.

Face validity of the scale was sound as all the items seemed to measure the life stressors of peptic ulcer patients.

Independent sample t test was used to explore life stressors in family system. It shows that there is a significant difference ($t = 0.86$, $p < 0.03$) between nuclear and joint family system. It also reveals that patients belonging to nuclear family system ($M = 50.66$, $SD = 16.57$) has more life stressors as compare to patients belonging to joint family system ($M = 48.34$, $SD = 13.30$).

Discussion

Literature has mostly focused on the physiological issues related to peptic ulcer patients but the stress that is one of the major cause of peptic ulcer or one of the leading cause to make the disease worse was not given much importance. Major agenda of current study was to explore the life stressors of the patients having peptic ulcer. For that purpose scale was developed consisting of 18 items with two factors.

According to Bio psychosocial model, one must categorize the disease by focusing on all the three aspects that is biological, psychological and social. Out of two factors of the scale, one is Somatic Problems. As we knows that somatic issues are one of the core reasons of having ulcer and patients with ulcer mostly complaint about their bodily symptoms first rather than psychological so when the patients share about their biological symptoms they also tell about certain psychological problems they are having and it also goes well with bio psychosocial model.

Second factor is Social Disruption that includes factor related to social disturbance and problems like feeling down because of bad health, practice caution in taking food and drink, can't eat food of their choice. The second factor that is social disruption reflects core of the collectivistic culture a person's health and well-being is heavily influenced by and on the people around. Initially person gets attention, love and care but when it becomes chronic problem then social life starts to affect. It is difficult for the individual to attend gatherings because of burning pain, agitation and unable to enjoy food.

Psychological life stressors had always a contributing factor in

the development of peptic ulcer disease as the stress proved to be the causing factor behind the disease (Ravisankar et al, 2016). In our culture people experience more stress while living in nuclear family system as they have to manage all expenses and household work by themselves whereas in joint family system financial expenses are shared and household work is also divided among family members so stress is less. The limitation of the study is that although random sampling was done but equal ratio of married or unmarried, working and non-working can be taken but due to pandemic people mostly quarantine themselves at home and very few reach out to hospitals.

Conclusion

This instrument would be a useful tool to measure life stressors of peptic ulcer patients in Pakistan. It will further help the clinical psychologist to work on those stressors so the adverse effects of peptic ulcer can be minimized. Timely assessment will lead to better intervention to improve the psychosocial functioning of the patient.

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Conflict of Interest

None

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