The Male Sexual Quotient: A Brief, Self-Administered Questionnaire to Assess Male Sexual Satisfaction

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ABSTRACT

Introduction. Sexual satisfaction is an important aspect of overall life satisfaction. The Male Sexual Quotient (MSQ) was designed to provide a versatile, user-friendly instrument to measure various aspects of male sexual function and satisfaction.

Aim. Assess responses to the MSQ in men with sexual dysfunction (SD).

Methods. Items for inclusion in the MSQ were developed through interviewing 612 randomly recruited men in São Paulo, Brazil, about factors considered to influence sexual quality of life. Validation of the MSQ was conducted in two phases in men with and without SD.

Main Outcome Measure. The correlation between patients' total MSQ score and scores on the Sexual Health Inventory for Men (SHIM).

Results. The resulting MSQ questionnaire contains 10 items that address sexual function and satisfaction and is scored on a 100-point scale, with higher scores indicating greater sexual function and satisfaction with such function. Patients' scores on the MSQ were positively correlated with scores on the SHIM ($r = 0.86; P < 0.0001$). Scores on MSQ item 8, which assesses ejaculatory control, indicated that 46% of patients may have premature ejaculation (PE). The mean time for patients to complete the MSQ was 11 minutes.

Conclusions. The MSQ is a brief, comprehensive, and easily self-administered tool designed to help men identify aspects of their sexual experience that could be improved through partner dialogue, physician consultation, and appropriate treatment. MSQ scores correlated well with SHIM scores, and scores were inversely related to the severity of erectile dysfunction or PE and other male SDs. These preliminary findings suggest that the MSQ possesses good convergent validity. Nearly half of men reported problems with ejaculatory control, indicating an association between PE and other SD. Further validation of the MSQ in a double-blind trial is needed. The MSQ may aid in decision making for the treatment of SD. Abdo CHN. The Male Sexual Quotient: A brief, self-administered questionnaire to assess male sexual satisfaction. J Sex Med 2007;4:382–389.

Key Words. Premature Ejaculation; Male Erectile Disorder; Psychological Assessment

Introduction

Sexual dysfunction (SD), including erectile dysfunction (ED), rapid or premature ejaculation (PE), orgasmic disorder, hypoactive sexual desire disorder, and sexual pain disorders are highly prevalent in men [1]. A study of 1286 Brazilian men revealed that 46% reported at least some degree of ED [2], and ED was estimated to affect 52 million men in the United States [3]. The Krimpen Study revealed that the annual incidence rate for ED increased from 7.7 per 100 men aged 50–59 years to 20.5 per 100 men aged 70–78 years [4]. SD not only severely compromises sexual satisfaction, which is well-known to be closely linked to overall life satisfaction [5], but is also associated with lower quality of life [6–8], lower self-esteem [9–11], depression [3,12,13], anxiety [11], and adverse effects on interpersonal relationships [10,11,14]. Moreover, SD can have a negative impact on the well-being of partners of those affected [15,16].

Evidence suggests that the causal relationships between SD and low quality of life, low self-
esteem, depression, anxiety, and problems in interpersonal relationships are complex but may be reciprocal. For example, several studies have pointed to low self-esteem, relationship problems, depression, or other psychological issues as factors that contribute to SD [14,17]. However, there is also substantial evidence to suggest that SD can promote low self-esteem, mood disorders, and interpersonal relationship problems [10,11,17]. Moreover, successful treatment of ED not only increases patients’ sexual satisfaction [18–24] but also produces beneficial effects on quality of life [6,19,21,22,24–27], self-esteem [9,10,25,28], interpersonal relationships [21,29], and mood disorders [25,30–32]. Successful treatment of ED also improves sexual satisfaction [20,24,26,33–35] and produces quality-of-life [27] and relationship [36] benefits for patients’ partners.

The impact of proper diagnosis and treatment of SD on psychological health represents an important example of how improvement of sexual satisfaction can lead to the enhancement of overall life satisfaction. Given the availability of effective treatments for ED, adequate diagnosis of SD represents an important step in the management of affected patients. Several diagnostic instruments have been developed in the past several years and are increasingly being used in the investigation of ED. However, no instruments have been developed in Brazil that take into account the various domains of sexual function (desire, arousal, performance, ejaculation, orgasm, satisfaction). The objective of the present study was to develop and validate such an instrument. Self-administered questionnaires are well accepted as an effective way to measure aspects of sexual quality of life [37], and many questionnaires designed for this purpose are present in the literature [38]. The instrument described in this report, the Male Sexual Quotient (MSQ), is a user-friendly questionnaire designed to measure sexual function and satisfaction with various facets of male sexuality, with the goal of helping men improve overall sexual satisfaction. For example, questionnaires designed to detect the presence of a specific SD [39–41] or investigate issues related to a specific SD [9,42] are commonly used. The MSQ was designed to evaluate satisfaction with some components of the male sexual experience, including desire, confidence, performance, climax, and male sexual function with the concept that an appropriate instrument to assist men in identifying aspects of their sexual experience that could be improved may help them initiate conversations with their partners, seek the help of a physician or sexologist, and obtaining appropriate treatment, thereby enhancing general sexual satisfaction.

Materials and Methods

Questionnaire Development

To aid in the development of the MSQ, men 18–72 years of age from the general population of São Paulo, Brazil, with and without SD, were randomly selected from data provided by the Brazilian Institute of Geography and Statistics (IBGE, http://www.ibge.com.br). The IBGE is the official Brazilian institute for population-based research and has established strict criteria for population-based studies. Based on these criteria, we invited subjects to participate in voluntary qualitative interviews by telephone for the purpose of item generation of factors they believed influence sexual quality of life. The telephone interviews were conducted by psychologists of the Sexuality Project (ProSex, Psychiatry Institute, University of São Paulo State, Brazil). Interviewers followed a prepared script, and the answers to their questions were recorded and analyzed after all interviews were completed. The MSQ was constructed based on these responses.

Questionnaire Validation

Validation of the MSQ was performed in two stages. In stage 1, consecutive male patients who were seeking treatment at the Sexuality Project, a public service provided by the University of São Paulo Medical School’s Institute of Psychiatry for the treatment and prevention of SD, were recruited to self-administer the MSQ questionnaire. Patients were instructed to complete the MSQ based on their previous 6 months of sexual activity. Each item was answered on a graded scale of 0–5 based on frequency and level of satisfaction, with 0 indicating “never” and 5 indicating “always;” thus, higher scores indicate greater sexual satisfaction. The scores for all individual items were summed and multiplied by 2, resulting in a final transformed MSQ score based on a 100-point scale.

Confirmation of the MSQ questions was made using factorial analysis, using the method of principal components using varimax rotation. The criteria for selected factors were a Kaiser-Meyer-Olkin score >1 and coefficient correlation >0.30. Internal consistency was verified using Cronbach’s alpha coefficient. The validation of
the MSQ was assessed by comparing the mean scores of patients with SD to those of controls without SD using a Mann–Whitney test. The controls, men without SD, were individuals from the population who had neither complaints of SD nor a history of SD. All controls reported satisfactory sexual relations, which was confirmed by a detailed general and sexual anamnesis. A sample size of 25 men with SD and 25 men without SD was determined assuming a Cronbach’s alpha greater than or equal to 0.60 with 90% power to detect a type I error of 5%. Differences in demographic characteristics were assessed using Student’s r-test for continuous variables and chi-squared test for categorical variables at the 95% level of significance.

In stage 2, patients completed the MSQ and the Sexual Health Inventory for Men (SHIM) [40], an abridged, 5-item version of the International Index of Erectile Function (IIEF) [39,43], which was developed for use as a diagnostic screening tool for ED. Because the SHIM primarily assesses erectile function and the MSQ assesses both sexual function and satisfaction with such function, the relationship between MSQ and SHIM scores was assessed with Pearson’s correlation coefficient. Other measures of erectile function, such as the IIEF and SHIM, or psychosocial measures of ED, such as the Self-Esteem And Relationship questionnaire (SEAR) [9], do not contain items that assess PE. Item 8 of the MSQ measures ejaculatory control, and the presence of PE is defined by a response of ≤2 on this item. Thus, the proportion of men with a response of ≤2 to item 8 of the MSQ was assessed to determine the prevalence of PE in the study population. The presence of PE is strengthened if there are also low scores (≤2) on items 3 and 4 of the MSQ.

The study was approved by the Ethics Committee of the Clinical Hospital of the University of São Paulo State, Brazil. Every patient who answered the MSQ provided written informed consent prior to performing any activity related to the study project.

Results

Questionnaire Development

A total of 612 Portuguese-speaking men were recruited from the general population and agreed to participate in the qualitative interview process for the purpose of item generation for the MSQ. During the course of the interview, 20 items that consistently arose were identified as factors that contribute to sexual quality of life. Of these, participants were asked to name the 10 most relevant items, which were then structured to form the MSQ. This version of the MSQ covers a range of physical and emotional aspects of sexual experience, including desire (item 1), confidence (item 2), foreplay quality (item 3), partner satisfaction (items 3–4), erection quality (items 5–7), ejaculatory control (item 8), ability to achieve orgasm (item 9), and intercourse satisfaction (item 10). In addition to assessing the presence of ED, unique features of the MSQ include the ability to detect the presence of hypoactive sexual desire (question 1), PE (question 8), and anorgasmia (question 9). The results of this study are based on the Portuguese version of the MSQ. The MSQ was translated into English by a professional translator for this publication (Table 1).

<table>
<thead>
<tr>
<th>Table 1 Male Sexual Quotient self-assessment questionnaire</th>
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<table>
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<tr>
<th>Question</th>
<th>Rating</th>
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<tbody>
<tr>
<td>Is your desire high enough to encourage you to initiate sexual intercourse?</td>
<td>0 Never</td>
</tr>
<tr>
<td>Do you feel confident in your ability of seduction?</td>
<td>1 Infrequently or rarely</td>
</tr>
<tr>
<td>Do you feel that foreplay is enjoyable and satisfying for both you and your partner?</td>
<td>2 Sometimes</td>
</tr>
<tr>
<td>Is your own sexual performance affected by your partner’s sexual satisfaction?</td>
<td>3 Nearly 50% of the time</td>
</tr>
<tr>
<td>Can you maintain an erection sufficiently in order to complete sexual activity in a satisfactory way?</td>
<td>4 Most of the time</td>
</tr>
<tr>
<td>After sexual stimulation, is your erection hard enough to ensure satisfying intercourse?</td>
<td>5 Always</td>
</tr>
<tr>
<td>Are you able to consistently obtain and maintain an erection whenever you have sexual activity?</td>
<td>1 Infrequently or rarely</td>
</tr>
<tr>
<td>Are you able to control ejaculation so that sexual activity lasts as long as you want?</td>
<td>2 Sometimes</td>
</tr>
<tr>
<td>Are you able to reach orgasm during sex?</td>
<td>3 Nearly 50% of the time</td>
</tr>
<tr>
<td>Does your sexual performance encourage you to enjoy sex more frequently?</td>
<td>4 Most of the time</td>
</tr>
<tr>
<td>Total maximum score: 50</td>
<td></td>
</tr>
</tbody>
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The MSQ equals total score multiplied by 2

Male Sexual Quotient Scoring

82–100 Highly satisfied: I am very sexually satisfied and enjoy my sex life to the maximum.
62–80 Partially satisfied: I enjoy sex, but there is some room for improvement.
42–60 Average: I am concerned that my sexual enjoyment really could be better.
22–40 Dissatisfied: I feel that my sex life does not give me enough satisfaction.
0–20 Highly dissatisfied: I am very concerned that I don’t get any satisfaction from my sex life.

MSQ = Male Sexual Quotient.
The Male Sexual Quotient Questionnaire

Questionnaire Validation
The comparison between the mean MSQ scores of men with SD (N = 30) with those of men without SD (N = 30) in stage 1 revealed that both groups were similar with respect to age and marital status. Patient and control groups were similar with respect to mean age (45.1 years and 45.4 years, respectively, \( P = 0.939 \) using Student’s \( t \)-test) and the proportion who were married (47% and 53%, respectively, \( P = 0.602 \) using chi-squared test). There were significant differences (\( P < 0.001 \)) in scores on all individual questions of the MSQ between groups. The mean ± standard deviation of total scores for men with SD was 31.3 ± 15.5 vs. 91.6 ± 4.5 for men without SD (\( P < 0.001 \)). The range of scores on the MSQ for men with SD was 0–52; all men without SD had MSQ scores >76.

Statistical analysis revealed that all 10 questions of the MSQ are relevant (Cronbach’s alpha reliability coefficient = 0.58, \( P < 0.001 \)). Factor analysis revealed three factors with a cumulative variance of 72.2%. There was an overlap in factor loading such that individual questions could not be easily loaded onto a single factor; several questions were present in more than one factor. Questions 7, 8, 9, and 10 were components of at least one other factor, and question 10 appeared in all three factors. Nevertheless, after assigning items to each factor the three domains became performance (questions 3, 5, 6, 7, and 8), confidence/satisfaction (questions 1, 2, 9, and 10), and partner synchronization (question 4). Internal consistency revealed \( \alpha \)-coefficients between the domains and the total MSQ of 0.637, but internal consistency was higher when the individual questions were considered separately. Therefore, we decided to consider the MSQ as a single factor scale, not divided by domains.

A total of 130 patients were tested in stage 2 of the validation. These patients presented with diverse SD, including ED of varying degrees, PE, hypoactive sexual desire, anorgasmia, and other disorders. All patients were men >18 years of age whose native language was Portuguese. The patients were of mixed age, race, profession, and state of residence. Interviews with patients during stage 2 revealed that the questions on the MSQ were clear and that the format of the questionnaire was acceptable. The mean time for patients to complete the MSQ was 11 minutes.

The SHIM identified 10 patients (8%) with complete ED, 37 patients (28%) with moderate ED, 38 patients (29%) with mild ED, and 45 patients (35%) with normal erectile function. The mean MSQ score for patients without ED was 84, whereas the MSQ scores ranged from 26 to 74 for men with mild, moderate, or complete ED. Patients’ MSQ scores varied with ED severity, as there was a strong positive correlation between SHIM and MSQ scores (\( r = 0.86, \ P < 0.0001 \)). Thus, there is a robust negative relationship between MSQ score and ED severity; MSQ scores decrease as ED severity increases (Figure 1).

A response between 0 and 2 on item 8 of the MSQ (“Are you able to control ejaculation so that sexual activity lasts as long as you want?”) was used to identify patients with PE. Using this criterion, PE was present in 60 (46%) of the patients in this study, who had also low scores (\( \leq 2 \)) on items 3 and 4 of the MSQ. Moreover, overall MSQ scores were lower as individual scores on item 8 were lower, indicating that more severe PE impacts overall sexual function and satisfaction to a greater extent (Figure 2); a finding consistent with indications that PE has deleterious effects on male sexual confidence and satisfaction [11].

Discussion
The MSQ assesses sexual function and satisfaction with such function, with the goal of providing a tool for men to help them optimize their sexual experience. It measures physical and emotional components of the sexual experience, as well as aspects of sexual function, including ejaculatory control, and thus is extremely comprehensive. The MSQ was developed by polling a sample of 612
men in São Paulo, Brazil, about factors that influence sexual quality of life. The MSQ was validated by comparing scores of 30 men with SD to those of 30 men without SD. The MSQ was subsequently tested in 130 patients with SD, and the relationship between total MSQ score with scores on the SHIM (a measure of ED) was investigated. Importantly, scores on MSQ item 8 (a measure of PE) indicated that PE is associated with ED nearly half of the time. The MSQ was validated in its Portuguese form [44], and the English translation form may undergo validation. The content validity of the MSQ is supported by the contribution of a large subject pool to the initial development process. Notably, the results of the assessment in men with diagnosed SD revealed that the MSQ is sensitive to ED, as demonstrated by the robust correlation between total MSQ score and SHIM score. Moreover, the correlation between function and satisfaction is consistent with evidence that erection hardness is associated with sexual satisfaction [18,23,33,39,45,46]. The strong, positive, and significant correlation between the MSQ and SHIM clearly indicates that a robust relationship exists between the two measures. Moreover, responses to item 8 indicate that the MSQ may also be sensitive to PE. PE is the most common ejaculatory disorder, and, in a program intended for early detection of ED, PE was comorbid with ED in 16% of cases [47–49]. Moreover, PE is linked to lower overall sexual satisfaction [11,50]. The MSQ can assess the impact of ED, PE, and ED with PE in men with SD. However, the MSQ was not designed or intended to be an independent diagnostic tool for either ED or PE. Proper diagnosis of SD remains the prerogative of medical consultation.

The MSQ was validated by comparing the scores of 30 men with SD to those of 30 men without SD. The MSQ was subsequently tested in 130 patients with SD, and the relationship between total MSQ score with scores on the SHIM (a measure of ED) was investigated. Whereas this is an important first step in the psychometric validation of the MSQ, other tests need to be performed. Divergent validity should be established by demonstrating that the MSQ does not vary with questionnaires measuring unrelated topics. Discriminant validity also needs to be evaluated, for example, by evaluating the relationship between MSQ score and a general assessment question regarding sexual satisfaction. Finally, formal validation studies and the responsiveness of the MSQ should be demonstrated in double-blind trials of patients receiving treatment for their ED or PE.

Currently, questionnaires are widely used in sexual medicine [37]. For example, in the treatment of ED, the IIEF [39] and its erectile function domain [51] are commonly used in clinical trials to assess ED treatment efficacy, and the SHIM [43] is used in clinical settings as a screening tool in ED diagnosis. The SEAR [9] questionnaire is used to gauge the impact of ED on men’s self-esteem and interpersonal relationships, and the Erectile Dysfunction Inventory of Treatment Satisfaction (EDITS) [42] is used to assess treatment satisfaction in patients with ED and their partners. These questionnaires are reliable, valid, and sensitive to treatments and have increased the dialogue between men with ED, their partners, and their clinicians. A new Quality of Sexual Function scale for both sexes is under development and validation, which may also aid in opening dialogue [50]. Self-administered questionnaires are very useful in that they are convenient and can be easily used outside of a laboratory setting [37].

The MSQ covers a broad range of male sexuality, including personal satisfaction with foreplay and intercourse, partner satisfaction with foreplay and intercourse, confidence, and erection quality, in a brief format. Importantly, the MSQ includes items that are lacking in other instruments; the MSQ can help detect hypoactive sexual desire, PE, and anorgasmia. Thus, the MSQ can help men identify emotional or performance-related aspects of their sexual experience that can be improved.
through open dialogue with their partners. This may lead to a direct enhancement of sexual pleasure for men, as well as an indirect enhancement of male sexual pleasure by increasing partner satisfaction. The MSQ may also encourage men and their partners to enhance sexual satisfaction by seeking counseling through a specialist. Finally, the MSQ may help men identify an SD, such as ED, PE, hypoactive sexual desire, or anorgasmia, that can be improved by consulting a physician and receiving appropriate treatment.

In addition to being a highly versatile tool to assess emotional, physical, and functional components of men's sexual experience, the MSQ is advantageous in that it is user-friendly, brief, and easy to self-administer; the mean time for patients to complete the MSQ in the current study was 11 minutes. Moreover, the grading scale is provided with the questionnaire, allowing the opportunity for immediate feedback and self-evaluation. This further contributes to the ease of use and affords privacy to the user. This level of convenience and privacy may encourage men who otherwise may not have addressed issues with their sexual experience to evaluate their sexual satisfaction and take appropriate action.

Conclusion

The MSQ may be a versatile tool to help men enhance sexual satisfaction by encouraging dialogue with their partners, physicians, and counselors. Further reliability and validity testing of the MSQ will be performed. This brief questionnaire may help men evaluate physical, emotional, and functional components of their sexual experience. Importantly, sexual satisfaction is linked to overall life satisfaction; enhancing sexual satisfaction may thus have beneficial effects on a person's general well-being. The ease of self-administration and self-evaluation makes the MSQ suitable for broad distribution in the clinician's office and other settings where men's health is addressed.

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Conflict of Interest: None declared.

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