

Psychological Profile of Patients with Central Serous Retinopathy

Christine S. Siguan, MD, Romulo N. Aguilar, MD, PhD

Department of Ophthalmology and Visual Sciences
University of the Philippines- Philippine General Hospital
Manila, Philippines

Correspondence: Christine S. Siguan, MD
Department of Ophthalmology and Visual Sciences
University of the Philippines- Philippine General Hospital
Manila, Philippines
Email: christinesiguan@yahoo.com

Disclosure: The authors have no financial, proprietary or commercial interest on any of the materials used in this study.

ABSTRACT

Objective: To determine the psychological profile of Filipino patients diagnosed with central serous retinopathy (CSR).

Methodology: Patients seen at the Philippine General Hospital and diagnosed with CSR were included in the study after undergoing an eye evaluation. They completed a data collection form and the Minnesota Multiphasic Personality Inventory (MMPI) questionnaire that was administered by a psychologist. The results of the MMPI were analyzed against an available normative scale. The socio-demographic data and patients' psychological profile were determined.

Results: The study population (N=12) included 10 males (83%) and 2 females (17%), with a mean age of 38 ± 8.58 years. Eighty three percent (83%) of the patients lived at home with their families. All (100%) had some formal education; 58% attended or completed high school. The majority (75%) worked in non-professional roles (cooks, drivers, seaman, salesman) and 25% were not working. Most (67%) had no other medical illnesses. In the MMPI, the CSR patients showed tendencies to schizophrenia (84%), hysteria (83%), depression (75%), psychopathic deviate (67%), and hypochondriasis (58%).

Conclusion: The socio-demographic data confirmed that CSR is an ailment largely affecting middle-aged men. The sample population of Filipino CSR patients have the tendency to demonstrate schizophrenia (84%), hysteria (83%), depression (75%), and psychopathic deviate (67%), and 33% showed type A personality.

Keywords: Central serous retinopathy, Central serous chorioretinopathy, Psychological profile, Minnesota Multiphasic Personality Inventory

Philipp J Ophthalmol 2014;39:16-20

Central serous retinopathy (CSR) was first described by Von Graefe in 1866.¹ The characteristic finding of CSR is the formation of a localized neurosensory retinal detachment caused by leakage of fluid at the level of the retinal pigment epithelium, as confirmed by fluorescence angiography. Symptoms include sudden onset of dim and blurred vision, micropsia, metamorphopsia, and central scotoma. Men between the ages of 30 and 50 years old are preferentially affected.² Additionally, CSR has been closely related in several studies to different psychological factors and certain personality disorders.^{1,2}

Yanuzzi suggested that the eye, specifically the macula, is an ultimate target area, which can be intermittently or continuously stimulated by type A behavior with its physiologic consequences.¹ Conrad and associates showed that patients with CSR were more stressed due to inadequate coping strategies and have a higher incidence of physical complaints.³ Spahn *et al* showed that they have elevated psychic stress, heightened emotional instability, insecurity, flexibility and spontaneity.⁴ They were also associated with hysteria, depression, and hypochondriasis.^{5,6}

There were several psychometric tools used in the studies mentioned; namely, the Jenkins Activity Survey, Symptom Checklist, Sixteen Personality Factors Questionnaire, and the Minnesota Multiphasic Personality Inventory (MMPI). The MMPI is the most widely used psychometric tool to determine objective personality characteristics of patients.⁷ Only the studies by Yoon⁵ and Werry⁶ used this tool to measure the psychological profile of patients with CSR. To date, there are no local studies that investigated the psychological profile of Filipino CSR patients using any psychometric tool.

Thus, we investigated the psychological profile of Filipino patients diagnosed with central serous retinopathy and also determined the socio-demographic profile.

METHODOLOGY

Patients diagnosed with CSR at the medical retina clinic of the Philippine General Hospital between January 2012 and August 2013 were recruited for the study. The inclusion criteria were: those diagnosed with CSR who had sudden onset of dim and blurred vision, micropsia, metamorphopsia, and central scotoma; those with serous retinal elevation

confirmed by fluorescence angiography or ocular coherence tomography. The exclusion criteria were: those with other macular diseases such as age- or drusen-related degeneration, angioid streaks, choroidal rupture, ocular histoplasmosis syndrome, pathologic myopia, or inflammatory uveovitreous disorders such as Harada's disease. Patients with neurosensory macular detachment associated with clinical or fluorescein angiographic manifestations indicative of subretinal neovascularization were also excluded.

Prior to enrollment, each participant was given a patient's information sheet explaining the study. An informed consent was obtained.

Patients underwent a complete ophthalmological examination (Snellen visual acuity, slit lamp evaluation, intraocular pressure measurement, and dilated funduscopy). The CSR diagnosis was based on typical symptoms of visual disturbances and metamorphopsia, and findings of serous retinal elevation confirmed by either fluorescence angiography or ocular coherence tomography. Once the patients were referred to the study, another examination was conducted to complete the data collection form. Socio-demographic characteristics such as: age, sex, social history (educational background, living companions, type and status of work), and medical history (past medical history, family medical history and ocular history) were obtained.

The Minnesota Multiphasic Personality Inventory (MMPI) is considered an objective test for multi-dimensional personality diagnosis in adults. The test consisted of 566 items and took approximately three hours to complete. It assessed 10 major categories of abnormal human behavior with 10 clinical scales, and three validity scales that measured the person's general test-taking attitude and whether they have answered the test truthfully and accurately. The 10 clinical subscales included hypochondriasis, depression, hysteria, psychopathic deviate, masculinity, femininity, paranoia, psychastenia, schizophrenia, hypomania, and social introversion.⁷

The MMPI has been translated into several languages. The Filipino version has been validated and is used in this study, administered by a trained psychologist. Patients who had difficulty with reading were assisted by the psychologist enabling them to answer the questionnaire accurately. The psychologist analyzed the results of the MMPI based on the available normative scale.

Descriptive analysis was compiled for socio-demographic data and for the psychological profile. Mean \pm standard deviation with minimum and maximum values were used for continuous data and frequency with percentage distribution for categorical data.

The study was approved by the research ethics board of the hospital and adhered to the tenets of the Declaration of Helsinki.

RESULTS

Sixteen patients were recruited to join the study. Two patients did not arrive for their scheduled psychological examination. One patient refused to answer the questionnaire due to its extensive length, while another refused to answer due to fear of disclosure of private issues. In total, 12 patients successfully completed the data collection form and the MMPI questionnaire.

There were 10 males (83%) and 2 females (17%), with a mean age of 38 ± 8.58 years. Majority of the patients with CSR were males (83%); most of them (83%) lived at home with their families. All had some formal education: 58% reached high school level (attended or completed) and 42% college level (attended or completed). Seventy five percent (75%) worked in non-professional roles (cooks, drivers, seaman, salesman) and 25% were not working. Most of them (67%) have no other medical conditions and 33% had one illness (hypertension, diabetes mellitus, peptic ulcer disease, or temporo-mandibular joint disorder). Only 25% wore spectacles while the remainder had unremarkable ocular history (Table 1).

Table 1: Demographic profile of the study population (N=12).

Variable	Number of patients (%)
Age (years) mean +/- SD range	38 \pm 8.58 (25-53)
Sex: male	10 (83)
female	2 (17)
Living situation: alone	1 (8)
with partner	1 (8)
with family	10 (83)
Education: high school	7 (58)
college	5 (42)
Work: professional	0
non-professional/vocational	9 (75)
none	3 (25)
Medical History: none	8 (67)
with other medical illness	4 (33)
Ocular history: spectacle use	3 (25)

Based on a moderate rating of the MMPI validity scales (Table 2), patients with CSR were more associated with tendencies to schizophrenia (84%), hysteria (83%), depression (75%), psychopathic deviate (67%), and hypochondriasis (58%) compared to the normative sample (Figure 1). The remainder of the clinical scales (paranoia, masculinity/femininity, psychastenia, hypomania, and social introversion) could be considered normal compared to the normative sample (Table 3). Based on the psychological profile of the CSR patients, 33% were most likely associated with type A personality (Table 3).

Table 2: MMPI validity scale results of CSR patients (N=12).

Scale	Number of patients (%)	Rating/Interpretation
Lie Scale	5 (42)	Moderate (slightly conforming than the typical person)
	3 (25)	Marked (may indicate a very self-controlled behavior)
	2 (16.5)	Low (still within the normal range but may be very self-reliant)
	2 (16.5)	Normal (there is proper balance between admission and denial of problems)
Frequency Scale	7 (58)	Moderate (normal responses, but acknowledges more unusual experiences in his life)
	3 (25)	Normal (normal responses, able to acknowledge a balance within his experiences)
	2 (17)	Low (maybe in denial or someone who is very conventional and unassuming)
Psychopathology Scale	8 (66)	Moderate (quite defensive and not willing to acknowledge distress)
	2 (17)	Normal (normal responses and acknowledgement of life experiences)
	1 (8)	Low (may probably experience distress at time being)
	1 (8)	Marked (may consistently try to maintain a façade of adequacy and control)

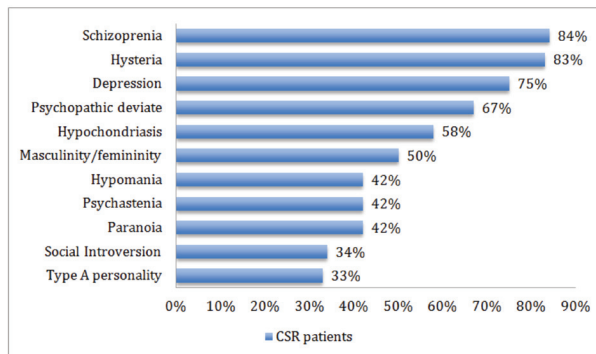


Figure 1: MMPI clinical scale results of CSR patients (N=12).

Table 3: MMPI clinical scale results of CSR patients (N=12).

Scale	Number of patients (%)	Rating/Interpretation
Hypochondriasis	7 (58)	Marked (excessive concern regarding physical and bodily complaints)
	5 (42)	Normal (typical number of complaints)
Depression	9 (75)	Marked (exhibits general sadness about life in general)
	3 (25)	Normal (has normal behavior and attitudes reflective of depression)
Hysteria	6 (50)	Moderate (has the typical attitudes related to hysterical behavior)
	4 (33)	Marked (would usually deny problems, physically and psychologically)
	2 (17)	Normal (usually optimistic in life)
Psychopathic Deviate	7 (58)	Moderate (likely to be naïve, self-centered and superficial)
	4 (33)	Low (conforms to conventions, tends to be rigid and structured)
	1 (9)	Marked (may exhibit rebellious tendencies)
Masculinity/Femininity	6 (50)	Normal (he/she is interested in traditional male/female activities)
	3 (25)	Marked (he/she is not inclined towards normal, traditional and usual preferences)
	2 (17)	Low (he/she maybe strongly tied to his/her traditional male/female roles)
	1 (8)	Moderate (he/she is inclined towards a more traditional and usual masculine/feminine preferences)
Paranoia	7 (58)	Normal (adequately sensitive and manifests adequate suspicions about his life)
	3 (25)	Moderate (quite sensitive and concerned about criticisms from other people)
	2 (17)	Marked (quite sensitive and aware of what people may think of him/her)
Psychastenia	7 (58)	Normal (able to handle work without undue worry and anxiety)
	3 (25)	Moderate (very wary of pressures, usually punctual and follows obligations)
	2 (17)	Marked (always concern about pressures, always follows his obligations dutifully)
Schizophrenia	5 (42)	Moderate (maybe creative and think differently than others)
	5 (42)	Marked (may show difficulties in making decisions and judgments, likely to be in distress)
	2 (17)	Normal (able to think rationally)
Hypomania	7 (58)	Normal (he/she has normal tendencies towards being extroverted)
	5 (42)	Moderate (has tendencies towards being outgoing, extroverted and active)
Social Introversion	8 (67)	Normal (proper balance between introversion and extroversion)
	3 (25)	Moderate (prefers to be alone or in a small group only)
	1 (9)	Marked (highly introverted, shy and socially insecure)
Type A personality	4 (33)	Most likely type A (scored high in hypochondriasis, psychastenia, depression and social introversion)
	8 (67)	Unlikely type A

DISCUSSION

The socio-demographic profile of the sample population confirmed that CSR is an ailment more common in middle-aged males (Table 1), as noted in previous studies,^{1,3,4,8} averaging 81% and comparable to our results of 83%. As the majority of our CSR patients lived with their families, they may potentially benefit from familial support. All of them received at least some measure of formal education and the majority worked in non-professional roles. There were no other related medical illnesses. In the series by Spahn, most CSR patients held white-collar jobs,⁴ in contrast to our study where most came from a lower income background.

The psychological profile of the CSR patients, assessed using the Minnesota Multiphasic Personality Inventory test, showed that patients have a greater association with hypochondriasis, which is associated with a wide variety of vague and non-specific complaints about bodily functioning. Secondly, they were also associated with depression, characterized by poor morale, lack of hope in the future, and a general dissatisfaction with one's life. Patients also exhibited tendencies towards schizophrenia associated with bizarre thoughts, peculiar perceptions, social alienation, poor familial relationships, difficulties in concentration and impulse control, lack of deep interests, disturbing question of self-worth and self-identity, and sexual difficulties. Lastly, CSR patients were associated with hysteria, and measured five components — poor physical health, shyness, cynicism, headaches, and neuroticism.⁷

These results were also similar to the Korean study of Yoon that used the MMPI questionnaire and showed that the three neurotic scales of hypochondriasis, depression, and hysteria were significantly higher in CSR⁵. Another study in Germany using MMPI demonstrated that CSR patients scored more highly on the hypochondria and hysteria-scale.⁶ The MMPI questionnaire is widely used because of its large existing research base and familiarity to psychologists. It is designed with 10 clinical scales that assess 10 major categories of abnormal human behavior, and four validity scales that assess the person's general test-taking attitude and whether he has answered the test truthfully and accurately.⁷ It is worth noting that utilizing the same tool may have contributed to the consistency of the results in the studies mentioned above.

Other studies reported used other types of psychometric tools that showed different psychological profiles for CSR patients. In the study of Yanuzzi which used the Jenkins Activity Survey, most CSR patients had type-A personality.¹ The major components of type A behavior are: competitive drive, sense of urgency, aggressive nature, and a hostile temperament.¹ Our study revealed that only 33% of the sample population had type A personality using the MMPI. Several MMPI scales can be associated with type A personality, such as hypochondriasis, psychastenia, depression, psychopathic deviate, and social introversion. A type A individual will most likely score high in hypochondriasis, psychastenia, depression, and social introversion, while they may score low in psychopathic deviate.⁹ The difference in these results may be due to the cultural differences and different coping mechanisms of Filipinos compared to other races included in the other studies. The different psychometric tools used may also have contributed to the differences in these results. The study by Spahn, which used the 16 PF-Questionnaire, revealed that CSR patients showed heightened emotional instability, insecurity, flexibility, and spontaneity.⁴ Two studies by Conrad that used the Symptom Checklist 90-R, Complaints questionnaire (B-L), and Toronto Alexithymia Scale revealed that patients with CSR had elevated distress and were more stressed (Table 4). Therefore, different psychometric tools have revealed differences in the psychological profiles of CSR patients. To obtain a more extensive interpretation of CSR patients' psychological profiles, it is recommended that future studies utilize at least two psychometric tools.

The results of this study also showed that CSR patients were also associated with tendencies to schizophrenia and depression, generally regarded as more serious psychological conditions. It is recommended that further investigation into the link between CSR and these conditions be performed, and that more patients be recruited to further evaluate and differentiate their psychological profiles. Lastly, it is recommended that studies on a molecular level be conducted to determine the relationship between the psychological profile of a patient and its effect on the retinal pigment epithelium.

Table 4: Studies on CSR patients' profiles using different psychometric tools.^{1,3,4,9}

	Yanuzzi	C. Spahn, et al	R. Conrad, et al (2000)	R. Conrad, et al (2007)
Psychometric parameter used	Jenkins Activity Survey	Symptom Checklist 90-R Symptom List Questionnaire Sixteen Personality Factor Questionnaire	Symptom Checklist 90-R MEL (Munich, Germany Event List) Toronto Alexithymia Scale.	Complaints questionnaire (B-L)
Conclusion	CSR patients are associated with Type A personality.	Elevated psychic stress noted a few weeks after the onset of ailment. Results did not show a clear psychological profile in the etiology of CSR	CSR patients showed elevated distress by the Global Severity Index (for somatization, OCD, interpersonal sensitivity, depression, anxiety, hostility and paranoid ideation) Alexithymia is a potential risk factor for CSR.	Patients with CSR are more stressed because of inadequate coping strategies, which can be seen in a higher amount of physical complaints.

REFERENCES

1. Yanuzzi LA. Type A behavior and central serous chorioretinopathy. *Trans Am Ophthalmol Soc* 1986; 84:799-845.
2. Mansuetta CC, Mason JO, Swanner J. An association between central serous chorioretinopathy and gastroesophageal reflux disease. *Am J Ophthalmol* 2004; 137:1096-1100.
3. Conrad R, Bodeewes I, Schilling G. Central serous chorioretinopathy and psychological stress. *Ophthalmology* 2000; 97: 527-31.
4. Spahn C, Wiek J, Burger T, Hansen L. Psychosomatic aspects in patients with central serous chorioretinopathy. *Br J Ophthalmol* 2003;87:704-8.
5. Yoon WJ, Na KS, Choi GJ. A study on objective personality characteristics of the central serous chorioretinopathy patients. *J Korean Ophthalmol Soc* 1997;38:1155-1161.
6. Werry H, Arends C. Investigation in patients with central serous retinopathy with the MMPI Saarbrücken (author's transl)]. *Klin Monbl Augenheilkd* 1978;172:363-70.
7. Framingham, Jane. (2011) Minnesota Multiphasic Personality Inventory (MMPI). Psych Central-websitehttp://psychcentral.com/lib/minnesota-multiphaseis-prsonality-inventory-mmipi/.
8. Conrad R, Weber NF, Lehnert M. Alexithymia and emotional distress in patients with central serous chorioretinopathy. *Psychosomatics* 2007;48:489-495.
9. Friedman M. Type A Behavior: Its diagnosis and treatment. New York Plenum press: 1996.