Journal of Mind and Medical Sciences

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ISSN: 2392-7674

Alexithymia and physical outcomes in psychosomatic subjects: a cross-sectional study

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ABSTRACT

Backgrounds. Alexithymia is a relevant phenomenon, occurring transversally to healthy subjects and individuals affected by several conditions. Its role is considerable, according to current state of the art several conditions emerged as influenced, maintained and worsened by alexithymic structures and figures. The present study was aimed at highlighting the existing relations, the differences and the directions assumed by alexithymic factors and health status in patients affected by psychosomatic conditions. Methods. The sample consisted of 150 participants, 42 males (28.0%) and 108 females (72.0%), aged 26 to 78 years old with a mean of 42.24 years old (SD = 12.39). Subjects were previously assessed through DCPR-SI, in order to identify psychosomatic issues. The study evaluated measures related to alexithymia (Tas-20) and health status (SF-36), and considered demographic characteristics such as age, gender, and education. Results and Conclusions. The analyses demonstrated a number of significant relationships between alexithymia, psychological outcomes, and physical outcomes, including psychosomatic disorders. In addition, sex differences were found in gastrointestinal outcomes, as well as outcomes related to energy/fatigue and physical functioning. The study of alexithymia may provide a fruitful approach in understanding various issues related to pathology and general health. Further studies are needed to expand the understanding of alexithymia to other groups and health-related outcomes.

Category: Original Research Paper

Received: September 14, 2020
Accepted: November 12, 2020

Keywords:

alexithymia, clinical psychology, health, psychosomatics, Tas-20

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Introduction

"Alexithymia" describes a condition characterized by marked difficulty in indicating, describing, and being aware of emotions, the reduction of imagination, and a marked concern with concrete and detailed aspects of the external environment [1,2]. Theoretical and clinical interest in alexithymia has grown over the past decades, producing new perspectives while also revealing the need to improve constructs and refine clinical practice and useful psycho-diagnostics tools [3-5].

Alexithymia has a number of physical consequences [6-8], and it is associated with psychological characteristics that may have a direct role in the onset of various disorders and medical conditions [9-16]. These physical disorders include [17], but are not limited to, dermatological [18], cardiovascular [19,20] and gastrointestinal functional/structural issues [21-23]. Given that psychosomatic research has associated dermatological issues with psychological factors, it is not surprising that alexithymia may play a role [24-28]. A similar process may well be described for gastrointestinal, eating, and cardiovascular disorders [29-35]. In addition, the role of alexithymia in understanding a number of chronic conditions may be facilitated by understanding its relationship to specific psychological factors such as externally oriented thinking/operative thinking) and structures (psychosomatic order), suggesting a possible mediating role for such factors in chronic and worsening health conditions [36-38]. As such, alexithymia may play an increasingly important role in clinical practice [39-41].

Given the above, further study is needed to understand the role of alexithymia in different populations and for other psychological and physical/medical outcomes. In the present study, we assessed the relationship of alexithymia with a number of physical and psychological outcomes,

To cite this article: Liam Alexander MacKenzie Myles, Emanuele Maria Merlo. Alexithymia and physical outcomes in psychosomatic subjects: a cross-sectional study. *J Mind Med Sci*. 2021; 8(1): 86-93. DOI: 10.22543/7674.81.P8693

including physical functioning, energy, fatigue, emotional well-being and general health status in subjects reporting psychosomatic outcomes.

Study hypotheses

To address the above goal, we carried out research that addressed three hypotheses. (1) demographic characteristics such as age and gender will be associated with alexithymia and health status. (2) various factors related to alexithymia will be associated with health status and psychosomatic outcomes. And (3) Differences will occur between male and female participants regarding health status and physical outcomes.

Materials and Methods

Participants

The sample consisted of 150 participants, 42 males (28.0%), and 108 females (72.0%), aged 26 to 78 years old with a mean of 42.24 years (SD = 12.39). Each participant completed the protocol, including providing information about education, gender, and age. Each participant, before providing informed consent, was informed about the anonymous nature of data collection process, consistent with the 1964 Declaration of Helsinki.

Instruments and procedure

Subjects were selected on the basis of their psychosomatic conditions, as evaluated by the Diagnostic Criteria for Psychosomatic Research Structured Interview-DCPR-SI [42,43], a structured interview containing a set of 12 syndromes of disease phobia, thanatophobia, health anxiety, illness denial, persistent somatization, functional somatic symptoms secondary to a psychiatric disorder, conversion symptoms, anniversary reaction, irritable mood, type A behaviour, demoralization, and alexithymia. According to Galeazzi et al. [44], the DCPR-SI indexes has high interrater reliability with kappa values of: Disease phobia, 0.97; Thanatophobia, 0.92; Type A behaviour, 0.92; Illness denial, 0.90; Demoralization, 0.90; Anniversary reaction, 0.90; Health anxiety, 0.89; Alexithymia, 0.89; Conversion symptoms, 0.82, Persistent somatization, 0.70; and Irritable mood, 0.69. Psychosomatic outcomes were considered on the basis of three main groups (assessed through a 10-point Likert scale, [17], as suggested by Picardi et al. (dermatological) [18], (cardiovascular) [19,20], (gastrointestinal) [21-23].

The Short Form Health Survey (SF-36) [45], Italian version by Apolone & Mosconi, 1998; Hays & Sherbourne, [46,47] regarding RAND Medical Outcomes Study, maintaining the same items) was used to study specific health dimensions: physical functioning, energy/fatigue, emotional well-being, general health. According to the validation study (adhering to RAND structure and factors), the various factors yielded the following alphas: physical functioning, 0.93, energy/fatigue, 0.86, emotional well-being, 0.90, general health, 0.78.

Toronto Alexithymia Scale [48] is a self-report instrument consisting of 20 items structured on a 5-points Likert scale. TAS-20 has demonstrated an internal consistency of 0.81 (Cronbach's alphas), reporting a three factors structure (31% of the total variance), in particular Difficulty in Identifying Feelings (0.78), Difficulty in Describing Feelings (0.75), and Externally Oriented Thinking (0.66). Bressi et al. [49] published a cross validation of the Tas-20, including both clinical and non-clinical subjects. Alpha coefficient scores obtained with the non-clinic sample were 0.75 (full scale), and 0.77, 0.67 and 0.52 for the three factors; the clinical sample scores were 0.82 (full scale), and 0.79, 0.68 and 0.54 for the three factors. Subsequent research highlighted the good consistency and reliability of the three factors structure [50,51].

Statistical analysis

Numerical data were expressed as means and standard deviations, categorical variables as number and percentage. The Spearman test was used to evaluate correlations among alexithymia, health and psychosomatic variables of the following instruments. Student's t-test compared gender groups, referring to health status and psychosomatic outcomes. A P-value smaller than 0.050 was considered to be statistically significant. All analyses were performed using SPSS 26.0 for Window package.

Results

Table 1. Descriptive statistics

	Mean	Standard deviation
Years of study	15.79	3.11
Tas-20 Total score	50.43	12.46
Difficulty in Identifying Feelings	15.45	6.55
Difficulty in Describing Feelings	13.24	3.84
Externally Oriented Thinking	25.32	4.88
Physical functioning	17.32	3.76
Energy/fatigue	9.06	3.64
Emotional well-being	12.98	4.51
General health	11.92	3.54
Dermatological outcomes	17.32	9.32
Gastrointestinal outcomes	20.72	8.39
Cardiovascular outcomes	17.00	7.70

Table 2. Spearman correlation coefficients among Hp-1 variables

	Age	Years of education
Tas-20 Total score	**.170***	**-.165***
Difficulty in Identifying Feelings	.151	-.149
Difficulty in Describing Feelings	.104	-.124
Externally Oriented Thinking	**.200***	-.117
Physical functioning	**-.375****	**.311****
Energy/fatigue	.073	**-.275****
Emotional well-being	.101	-.129
General health	**-.173***	.050

$^{*}p < 0.05$ (two-tailed). $^{**}p < 0.01$ (two-tailed). Bold values were the significant values.

Hypothesis 1

As noted in Table 2, age and education showed significant correlations with several assessment scores. Regarding age, significant and positive correlations emerged with Tas-20 total score, externally oriented thinking, and general health status. A negative and significant relation emerged with physical functioning. Regarding years of study, negative and significant relations emerged among years of study, Tas-20 total score, and energy-fatigue. The only positive correlation emerged was referred to physical functioning.

Hypothesis 2

Hypothesis 2 was concerned with relationships among alexithymia (including related factors), health status, and psychosomatic outcomes. Results demonstrated significant positive relations with the onset of psychosomatic issues and negative significant correlations with health status (Table 3).

Table 3. Spearman correlation coefficients among Hp-2 variables

	Tas-20 Total Score	Tas-20 Difficulty in Identifying Feelings	Tas-20 Difficulty in Describing Feelings	Tas-20 Externally Oriented Thinking
Physical functioning	**-.326****	**-.352****	**-.269****	-.156
Energy/fatigue	**-.190***	**-.181***	**-.206***	.004
Emotional well-being	**-.320****	**-.398****	**-.177***	-.077
General health	**-.328****	**-.397****	**-.205***	-.121
Dermatological outcomes	.106	**.242****	.057	-.059
Gastrointestinal outcomes	**.253****	**.210****	**.220****	**.235****
Cardiovascular outcomes	**.331****	**.299****	**.223****	**.251****

*p < 0.05 (two-tailed). **p < 0.01 (two-tailed). Bold values were the significant values.

Regarding the Toronto Alexithymia Scale, significant negative correlations were found with physical functioning, energy/fatigue, emotional well-being, and general health status. Moreover, significant positive relationships emerged with gastrointestinal and cardiovascular outcomes. With regard to difficulty in identifying and describing feelings, significant negative correlations occurred with physical functioning, energy/fatigue, emotional well-being, and general health. Significant positive correlations emerged with dermatological, gastrointestinal, and cardiovascular outcomes, but no significant correlation was found between difficulty in describing feelings and dermatological outcomes. Externally oriented thinking was significantly and positively related to gastrointestinal and cardiovascular outcomes. In general, results concerning this second hypothesis highlighted relationships between alexithymia, negative health status, and increased psychosomatic issues.

Table 4. Comparison between male and female groups

Variables	Male	Female	*p-value*
Dermatological	16.38±9.42	17.68±9.29	,447
Gastrointestinal	18.26±7.85	21.68±8.44	**,021***
Cardiovascular	15.85±7.53	17.45±7.75	,251
Physical functioning	18.42±2.30	16.88±412	**,005***
Energy/fatigue	10.14±4.00	8.64±3.41	**,037***
Emotional well-being	14.04±5.41	12.57±4.06	,115
General health	11.92±3.47	11.92±3.59	,997

*p < 0.05; Bold values were the significant values.

Hypothesis 3

Hypotheses 3 was concerned with potential sex differences on a series of outcome variables (Table 4). Significant differences emerged on gastrointestinal outcomes, with higher scores in women, and on physical functioning and energy/fatigue, with higher scores in men.

Discussions

The current study examined relationships between alexithymia and health status using validated psycho-diagnostics tools, with results indicating a number of significant findings. In the first set of analyses, we considered the role of the demographic factors of age and education. Both variables were related to alexithymic total scores, as well as other specific physical and psychological outcomes, similar to a number of other studies [52-57]. In this respect, the first hypothesis was supported by our findings and also consistent with previously reported studies.

Regarding the second hypothesis, several significant findings emerged regarding the alexithymic domains and health status. As might be expected, physical, psychological, and general health were negatively related to higher alexithymic symptoms. In contrast, higher alexithymic scores were related to increased psychosomatic outcomes, including dermatological, cardiovascular, and gastrointestinal.

Regarding dermatological outcomes, the results suggested the strong link with the first alexithymic factor, that is, difficulty in identifying feelings. Such a link has been previously documented by research on psychosomatics and dermatological issues, as in the case of psoriasis, vitiligo, and other relevant illnesses [58-61]. Gastrointestinal and cardiovascular outcomes were even more strongly related to alexithymia, relationships also strongly reported in the literature [23, 62-66].

The third hypothesis was concerned with differences in physical outcomes and health status between men and women. Some significant differences emerged, with higher scores in men on physical functioning and energy/fatigue, and higher scores in women on gastrointestinal disorders. These findings are consistent with other recent studies showing relationships between gastrointestinal outcomes and alexithymic functioning [21,23,67-70].

Current research on alexithymia has the potential for integrating findings over psychological and biological domains, which are often viewed as distinct entities [71-75]. Several authors have addressed this dichotomy, so it would be fundamental to try to reach integrity overcoming theoretical oppositions. In addition to Damasio's earlier studies [76,77], more recent contributions have taken up the issue [78-80], suggesting ways to reframe classical perspectives through objective methods and rigorous analyses.

Conclusions

The current study investigated the relationship between alexithymia, demographic variables, and specific health outcomes using validated instruments. Results indicated that alexithymia may play a role in a variety of health outcomes, including gastrointestinal problems, and decreased physical and energy status. Subsequent studies should expand the observation group and balance gender groups, as well as use research designs that enable stronger inferences regarding causal relationships.

Conflict of interest disclosure

There are no known conflicts of interest in the publication of this article. The manuscript was read and approved by all authors.

Compliance with ethical standards

Any aspect of the work covered in this manuscript has been conducted with the ethical approval of all relevant bodies and that such approvals are acknowledged within the manuscript.

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