Psychosocial stress factors and the prevention of depressive illness in the elderly

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Summary

An intensive investigation was launched to determine the relationship between psychosocial factors and depressive illness in the elderly.

A group of known psychiatric patients with a history of depressive illness was compared with a control group of clients of welfare organizations. The aim was to determine guidelines for preventive psychogeriatric services, particularly with regard to depressive illness, which would then give an indication as to which one of two hypothetical propositions would probably be most applicable to the specific elderly population for which Stikland Hospital, Bellville, is formulating a preventive programme.

It was found that psychosocial factors play a relatively unimportant role in the genesis of depressive illness in the senium. Constitutional predisposition probably plays a larger or at least equally important role. A well-planned selective programme of secondary prevention, i.e. the early finding and treatment of depressed elderly persons, combined with a programme of primary prevention with regard to psychosocial stress factors and confined to elderly people at high risk for depressive illness, would probably yield better results at lower cost.

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In a resolution adopted by the 27th Assembly of the World Health Organization in 1974 it was suggested that the WHO 'initiate programmes concerning the role of psychosocial factors and their influence on health in general, and on mental health in particular'.[1] According to the report it appears that the elderly are particularly susceptible to a changing human environment. A sense of loss of self-esteem and rejection lead elderly people to the conclusion that little purpose is left in their lives. The report states that 'this is apparent in suicide and other statistics' and refers to the peak reached by depressive illnesses in later life.

Caplan[2] discusses an impressive list of possible harmful physical, psychosocial and sociocultural factors. He suggests that in a programme of primary prevention the public health principle of high-risk population groups is particularly useful. The wide variety of harmful factors would probably not be equally pathogenic for all population groups. The elderly, for instance, are especially subject to a multiplicity of physical and psychosocial stress factors and should be considered as being particularly vulnerable. Such high-risk subpopulations should naturally receive intensive preventive attention.

How important, really, are psychosocial stress factors in the genesis of depressive illness in the elderly? Goldfarb's[3] assertion that 'personal, social and economic losses or changes are important factors in the emergence of mental disorder in the aged' is opposed by the statement by Slater and Roth,[4] that 'it is possible that, where social adversity is present in old people who become mentally ill, it acts along with predisposition to illness rather than being itself the cause of it'. They add 'that it is at least arguable whether programmes directed mainly at socializing old people will have much effect in preventing psychiatric illness'.[5]

Cappon[6] reflects on the state of prevention in psychiatry. He writes: 'Psychiatry has failed to arrest the development of most illnesses in its realm except the grossest types . . . Certainly, psychiatry cannot anticipate and circumvent illness before it becomes manifest in the way hygiene can. And it is totally overwhelmed by the prevalence of psychiatric conditions at a time when it is asked to direct its attention to the promotion of mental health, an entirely different orientation'. Cappon then touches on the urgent issue, with which we cannot but concern ourselves as well: 'A decision must be made as to where the concentration of psychiatric effort should be made and how'.

In 1974 Mandell[7] sharply called the proponents of the idealistic social psychiatry school to order: 'I, for one, hold the community psychiatry movement in no small way responsible for the current debacle — armchair philosophy and vague, untested notions are of no use in designing and running programmes that cost hundreds of millions of dollars'.

Depressive illness in the elderly—the need for theoretical guidelines

When one reflects on the practical implementation of a comprehensive preventive psychogeriatric service programme the need for clear theoretical guidelines is strongly felt. The ratio of cost to benefit will always remain of compelling concern. A study of the literature, and the wide divergence of emphasis and opinion contained therein, a few examples of which were cited above, leads one to consider the following two simplified hypothetical propositions:

1. Unfavourable psychosocial factors contribute very substantially to the development of depressive illness in the elderly. A large-scale offensive to improve the psychosocial status of the aged is essential for the primary prevention of depressive illness in the senium.

2. A large-scale offensive to improve the psychosocial status of the elderly would probably lead to a disproportionate cost/benefit ratio. Psychosocial factors play a relatively minor part in the development of depressive illness in the elderly, constitutional predisposition being more (or at least equally) important. Psychosocial stress factors merely serve as precipitants of depressive illness, or act as aggravating factors in

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predisposed elderly people. A well-planned selective programme of secondary prevention (i.e. the early detection and treatment of depressed elderly people), combined with a programme of primary prevention (taking into account psychosocial stress factors) which is confined to elderly persons at high risk for depression, would probably yield better results at lower cost.

It is obviously important to make a choice between the above propositions. The present study was undertaken to determine which one of the two would probably be most applicable to the specific elderly population for which Stikland Hospital is formulating a preventive programme.

Subjects and methods

The psychosocial status of a group of known psychiatric patients with a history of depressive illness (group 1) was determined. The psychiatric status of a group of clients of several welfare organizations, with an expected higher psychosocial stress loading than the general elderly population, was then determined. This was the control group (group 2).

Group 1 (depression group)

One hundred and two elderly outpatients of Stikland Hospital (all White) in the age group 65 years and older, who were still in contact with the hospital, were selected from an appreciably larger number of possible cases whose clinical files were provisionally selected by a psychiatric nurse. The total number of patients spread over the service area of Stikland Hospital was about 1 000. For practical reasons, however, only patients residing in the northern suburbs, Bellville and the fairly closely situated large towns could be considered. The depression group of 102 patients was chosen after careful selection, according to the strict guidelines and criteria briefly summarized below. In these patients a clear diagnosis of depression had been made.

Group 2 (control group)

Five welfare organizations were approached for lists of those clients aged 65 years and older who caused most concern. A list of 152 clients was compiled. Without any further selection the number of clients dwindled to 88. The reasons for removal from the list were divergent and included 'moved house' (15) and 'not at home after repeated visits' (13). All clients were approached by the welfare organizations beforehand for consent. Only 5 clients refused to co-operate.

The investigators

I was assisted by an experienced psychiatric nurse who visited all the patients in the depression group at their homes and conducted interviews with specific data bases and accompanying operative definitions as guidelines. The same nurse conducted the interviews with the clients in the control group, assisted by an experienced psychiatric social worker.

Period of study

The interviews with the 102 patients in the depression group were conducted during the 6-month period April-September 1978. Interviews with the clients in the control group were completed during October and November 1978.

Diagnosis—general considerations and criteria

Much more value was attached to the details of the clinical picture as described and noted in the clinical file than to the formal diagnostic conclusion. A clear diagnostic statement supported by an equally clear and typical description of a depressive illness was much preferred. A detailed data base for making the diagnosis of a depressive illness was compiled from a variety of sources, e.g. the Hamilton rating scale of depression[8] and the Beck depression inventory.[9] 'Depressive illness' was defined as any depressive condition in which a depressive functional shift could be demonstrated (i.e. a physiological or somatic depression, with or without exogenous precipitating factors, according to the logical basis for classification proposed by Pollitt[10]). The presence of the functional shift was considered a necessary requirement for assignment to the depression group. The shift was also used as a basis for making the diagnosis of depression in the control group.

Degree of depression

For the purposes of the study three degrees or levels of depth of depression were distinguished: (*i*) light-moderate; (*ii*) moderate-severe (and obvious); and (*iii*) deep-severe. These levels were defined in detail, as were all aspects of the depressive condition, such as family history or history of previous attacks.

The data base—psychological status

The data base consisted of 227 separate items (or variations or degrees with regard to items). The items were grouped under the following headings: (*i*) sensory stimulation: perception (ability) and stimuli; (*ii*) motor activity (ability) and motor tasks; (*iii*) intellectual activity (ability) and tasks; (*iv*) emotional activity/security/gratification; (*v*) personality/needs; (*vi*) conation/drive; (*vii*) meaningful contact with other people; (*viii*) contact with/availability of social institutions; (*ix*) living circumstances/place of abode and members of household; (*x*) material status; and (*xi*) medical services. All the items in the data base were operationally defined and criteria were laid down in detail.

With the full realization that any grouping of items or factors would, to a considerable degree, be arbitrary and artificial and that there would inevitably be overlap, all the various items or combinations of items could eventually be categorized quite naturally as: security; independence; contact with meaningful others; stimulation; and/or meaningfulness. Items grouped under 'security' were mainly concerned with material security. Emotional security was evaluated under the heading of 'contact with meaningful others'. The mere provision of security, whether material or emotional, does not, however, take into consideration the need for independence. The same applies with regard to the items grouped under the heading of 'stimulation'. The meaningfulness of different forms of stimulation and activity had to be evaluated somehow.

In the determination of psychosocial status it was not thought sufficient to consider only availability or opportunity. 'Opportunity' was qualified throughout by 'need' (e.g. 'children: opportunity: nil or limited' may be considered as being very negatively loaded if coupled to 'need: strong' and less so if coupled to 'need: little or none').

The psychosocial status index (PSSI)

Psychosocial status was arbitrarily divided into four levels: cause for serious concern ('serious'); doubtful/unsatisfactory; satisfactory; and very good. An eventual classification into these four levels based merely on a general impression would have been unacceptable; a carefully detailed quantification or scoring of items and combinations of items was needed. A system of scoring was devised, based on the principle of reciprocal interaction between availability or opportunity and need. Assessing the psychosocial status of a particular elderly patient as 'satisfactory'

could therefore be justified as having resulted from a fairly precise, balanced scoring system. The range of scores was 119 (minimum: -68; maximum: +51). Minimum and maximum numerical values were likewise determined for each of the five broad categories of the psychosocial status index (security, independence, etc.).

The psychosocial status index (PSSI) is the total score attained by a person after summation of all the separate values allotted per item on combination of items. The four levels of the PSSI were determined by rather conservative cut-off points, e.g. only total scores of 70% or higher were considered as 'satisfactory', while scores of 50% and lower were considered as 'serious'. Advanced age was viewed as a negatively loaded factor and negative scores were allotted, more or less arbitrarily, to four age categories — 65-69 (-1); 70-79 (-2); 80-89 (-3); and 90+ (-4). Table I shows the levels of the PSSI expressed in terms of actual scoring ranges as well as percentage ranges.

TABLE I. PSYCHOSOCIAL STATUS INDEX (PSSI)—BROAD LEVELS

Serious	**50% and below**	**-68**	**to**	**-8 (50,42%)**
Doubtful/unsatisfactory	**51-69%**	**-7 (51,26%)**	**to**	**+15 (69,74%)**
Satisfactory	**70-79%**	**+16 (70,58%)**	**to**	**+27 (79,83%)**
Very good	**80% or above**	**+28 (80,67%)**	**to**	**+51**

Items were often freely combined and 'cross-referred'. Thus, for example, 'living circumstances' was alternatively combined with 'duties and responsibilities', 'freedom and independence' and 'role and status'. These combinations alone resulted in 56 separate item scores. Financial status and quality of living circumstances, in contrast, are examples of relatively simple items and were scored as follows — financial status: very poor (-1); poor (0); middle-class standard (+1); well-to-do (+2); living circumstances: very poor (-1); poor (0); average (+1); above average (+2).

In the very important category of 'contact with meaningful others' the scoring details of the relationship with the spouse are shown, as an example, in the Appendix.

The depression risk index (DRI)

The risk factors taken into consideration with regard to the genesis of a depressive illness in old age will differ according to the extent of emphasis on the aetiological significance of psychosocial stress factors on the one hand and constitutional predisposition on the other. Indices of depressive risk reflecting this divergence of emphasis were compiled.

Psychosocial factors (DRI_{soc}). The index was compiled from items generally associated with psychosocial stress. This very simplified version of the DRI was used in the retrospective determination of psychosocial status during the first depressive episode after the age of 65. A score of 0 denoted the highest risk and 12 the lowest. The following were considered to be risk factors: living alone, poor contact with loved ones or friends, negative attitude shown by loved ones or friends, poor financial position, unsatisfactory living circumstances or physical environment, physical illness or disability causing decreased mobility, chronic illness or disability causing pain or discomfort, poor eyesight and poor hearing.

Constitutional predisposition (DRI_{cp}). The index was compiled from items generally associated with constitutional predisposition, with 17 as the highest risk. The following were considered to be risk factors (as an example of scoring and on the assumption that we are most probably dealing here with a constitutionally determined pattern, the most negative loading is presented (scores in brackets)): (*i*) no demonstrable psychosocial precipitating factor ('endogenous factor') (2); (*ii*) first depressive episode after the age of 65 — deep-severe (3); (*iii*) deepest depressive episode before the age of 65 — deep-severe (3); (*iv*) several previous episodes (3); (*v*) strongly positive family history of depression (3); (*vi*) first depressive episode occurring before the age of 30 (3). A total of 17 indicated very high risk. Both the DRI_{soc} and DRI_{cp} scores were expressed as percentages. The broad levels of risk (with cut-off points) of these indices are shown in Tables II and III.

TABLE II. BROAD LEVELS OF RISK — DRI_{soc}

PSS excellent, practically no risk	**100%**	**12**
PSS satisfactory, low risk	**75%+ but < 100%**	**9-11**
PSS doubtful/unsatisfactory, appreciable risk	**> 50% but <75%**	**7 and 8**
PSS serious, high risk	**50% and less**	**6 and less**

PSS = psychosocial status.

TABLE III. BROAD LEVELS OF RISK — DRI_{cp}

Very high risk	**>80%**	**14-17**
Serious; high risk	**>70% but <80%**	**12 and 13**
Appreciably high risk	**50% and higher but <70%**	**9-11**
Low risk but risk factor may not be disregarded	**20% and higher but <50%**	**4-8**
Risk factor may be disregarded for practical purposes	**<20%**	**1, 2 and 3**

The question of bias

We were aware that before the patients arrived at the outpatient clinic several factors had already influenced selection. As the depression group consisted of psychiatric hospital patients the first of the hypothetical propositions could have been favoured as it is more probable that financial factors negatively load referrals to a state hospital. The psychosocial status of persons who seek psychiatric help from a state hospital could likewise be expected to be lower.

Another possible source of bias is found in the following argument: 'The most negatively loaded elderly people, and therefore the most depressed, are not referred to the state hospital.' It is more probable, however, (and this has been our experience) that general practitioners tend to treat the milder degrees of depressive illness themselves and refer the more severe cases.

It was not considered necessary to compare the depression group with a second control group consisting of persons who were neither psychiatric patients nor clients of welfare organizations. Almost 69% of patients in the depression group were found to fall in the PSSI category of 'satisfactory' (53%) or 'very good' (16%). It is unlikely that the psychosocial status of the general population of the area would have been significantly more favourable.

TABLE IV. TOTAL AVERAGE INDEX VOLUMES — PSSI AND DRI_{cp}

Index	Depression group	Control group
PSSI	**19,1 = Satisfactory**	**9,2 = Doubtful/unsatisfactory**
DRI_{cp}	**57,9% = Appreciably high risk**	**8,1% = Practically no risk**

Results

A mass of data was subjected to detailed analysis. Only the most salient aspects of the findings can be presented here.

The depression group and control group were compared with regard to the total average index values of the PSSI and the DRI_{cp}. The results are shown in Table IV.

Interpretation of differences based merely on average values must be undertaken with reserve. Seen against the background of the broadly stated hypothetical propositions regarding the relationship between unfavourable social circumstances and depressive illness in the elderly, the particularly low DRI_{cp} value for the control group is certainly meaningful. Again it should be remembered that only DRI_{cp} values of 50% and higher were regarded as 'high' and only values lower than 20% were considered indicative of 'practically no risk'. In calculating the average DRI_{cp} value, all members of the control group were considered. Only 10 (11%) of these fulfilled the criteria laid down for the diagnosis of a depressive illness. The benefit of any doubt due to possible lack of expertise on the part of the psychiatric nurse and the psychiatric social worker, or possibly due to insufficient information, was given to a further 24 (28%) of the control group. The diagnosis of a depressive illness was therefore made in 34 (39%) of the control group.

A comparison of the PSSI values and DRI_{cp} values in the two study groups, taking into consideration only people suffering from depressive illness or suspected/possible depressive illness, produced the results shown in Table V. A mean value for the degree of depression was calculated with regard to the various subgroups (1 = light-moderate; 2 = moderate-severe (and obvious); 3 = deep severe).

The PSSI value in the depression group (19,1) is 'satisfactory'. All the PSSI values of the various control subgroups are 'doubtful/unsatisfactory' (see Table I). Although the difference between the values of these control subgroups is not statistically significant, it is of interest to note that the most favourable score (11) was attained by the 10 members of 'true' depression subgroup. The difference between the DRI_{cp} in the depression group (58% at 'appreciably high risk') and the control subgroups is significant. The lowest value of 19% (practically no risk) was, paradoxically, found in the control subgroup in which an unequivocal diagnosis of a depressive illness was made.

T-test analysis yielded the following results (DG = depression group; CG = control group): PSSI — differences between average values: DG *v.* CG (total group): $P < 0{,}0001$; DG *v.* CG (non-depression group): $P<0{,}0001$; DG *v.* CG (depression subgroup of 34): $P<0{,}0001$; DG *v.* CG ('true' depression subgroup of 10): $P < 0{,}007$. DRI_{cp} — differences between average values: DG *v.* CG (depression subgroup of 34): $P < 0{,}0001$; DG *v.* CG ('true' depression subgroup of 10): $P<0{,}0001$. These results suggest that no positive correlation exists between unfavourable social circumstances and depressive illness in the elderly. The same tendency was reflected in all the statistical analyses performed. A few more examples are briefly presented below.

The two study groups were compared with regard to the broad categories or levels of the PSSI (Table VI). Chi-square analysis indicated a statistically highly significant difference between the two study groups ($P<0{,}0001$), with the tendency of the depression group to be in a socially more favourable position (χ^2 trend, $P<0{,}0001$).

TABLE V. A COMPARISON OF DRI_{cp}, PSSI AND DEGREE IN PATIENT AND CONTROLS WHO HAD THEIR FIRST DEPRESSIVE EPISODE AFTER THE AGE OF 65

Groups and subgroups	DRI_{cp}	PSSI	Degree
Depression group	**58%**	**19,1**	**2,07**
Controls: depression group (total group of 34)	**21%**	**8,3**	**1,06**
Controls: 'true' depression group (subgroup of 10)	**19%**	**11**	**1,2**
Controls: non-depression group ($N = 54$)	**—**	**10,6**	**—**
Controls: total group ($N = 88$)	**8,1%**	**9,2**	**—**

TABLE VI. PSSI — BROAD LEVELS (%)

	Serious		Doubtful/ unsatisfactory		Satisfactory		Very good	
	DG	CG	DG	CG	DG	CG	DG	CG
N	**1**	**9**	**31**	**52**	**54**	**21**	**16**	**6**
%	**0,98**	**10,2**	**30,4**	**59,1**	**52,9**	**23,9**	**15,7**	**6,8**

DG = Depression group, CG = Control group.

Comparison of the levels of the PSSI with the DRI_{cp} in the depression group showed the highest concentration of patients (54; 53%) to be in the 'satisfactory' category of the PSSI, with an average value of 21 (Table VII). The corresponding average DRI_{cp} value was 60,6% ('appreciably high risk'). Sixteen patients (15,7%) in the depression group showed 'very good' PSSI values (mean 34) with a corresponding DRI_{cp} value of 61,5% ('appreciably high risk').

TABLE VII. COMPARISON OF PSSI AND DRI_{cp} VALUES IN THE DEPRESSION GROUP

	Serious	Doubtful/ unsatisfactory	Satisfactory	Very good
PSSI	**-11($N = 1$)**	**8,4 ($N = 31$)**	**21 ($N = 54$)**	**34 ($N = 16$)**
DRI_{cp}	**18%**	**52,6%**	**60,6%**	**61,5%**
	Practically no risk	**Appreciably high risk**		

Two subgroups of the depression group were distinguished, an 'endogenous factor group' (no demonstrable psychosocial precipitating factor) and a 'non-endogenous factor group' (demonstrable psychosocial precipitating factor). These two subgroups were compared with regard to PSSI, DRI_{soc} (≡ PSSI, first depressive episode after the age of 65), DRI_{cp} and degree, first depressive episode after the age of 65 (Table VIII).

No statistically significant difference was found between the two groups with regard to the PSSI, DRI_{soc} and degree of depression. Although an adjustment was made with regard to the

TABLE VIII. COMPARISON OF DEPRESSION SUBGROUPS

	PSSI	DRI_{cp}	DRI_{soc}	Mean degree of depression
Endogenous factor group ($N = 42$) (41,2%)	**20,5 (74,4%) Satisfactory**	**58,9% Appreciably high risk**	**11,2 (93%) Satisfactory, bordering on 'very good'**	**2,19**
Non-endogenous factor group ($N = 60$) (58,8%)	**18,2 (72,4%) Satisfactory**	**49% Low risk, bordering on 'appreciably' high**	**9,7 (80,8%) Satisfactory**	**1,98**

endogenous factor group by leaving the endogenous factor score of +2 out of consideration (the DRI_{cp} score would otherwise have been 70,6% = serious; high risk), the average DRI_{cp} score for this group was 58,9%, indicating an 'appreciably high' risk. The DRI_{cp} score for the 'non-endogenous' group on the other hand, was 49% (low risk, bordering on 'appreciably high'). *T*-test analysis indicates that the two groups differ significantly from each other ($P<0,015$). Although the risk factor for the 'non-endogenous' group is relatively low, it is much higher than all the values for the control group (total group = 8,1%; depression subgroup of 34 = 21%; 'true' depression subgroup of 10 = 19%) where, for practical purposes, very little or no risk exists.

Several analyses were concerned with or involved degree of depression. It was clearly demonstrated that no positive correlation exists between an unfavourable psychosocial status or the presence of psychosocial stress factors and the deeper degrees of depressive illness. An example of this is shown in Table IX.

TABLE IX. COMPARISON OF DRI_{soc} CATEGORIES WITH REGARD TO DEGREE OF DEPRESSION

		Degree of depression		
Non-endogenous group:	*N*	1	2	3
Doubtful/unsatisfactory	**16**	**2**	**11**	**3**
Very good	**13**	**0**	**8**	**5**

No significant difference was found with regard to degree of depression between the 'endogenous' and 'non-endogenous' groups. It is also noteworthy that only 21,7% of patients in the 'non-endogenous' group presented with depression of light-moderate degree as against 58,3% with moderate-severe degree and 20% with deep-severe degree.

The five subcategories of the PSSI (security, independence, contact with meaningful others, stimulation and meaningfulness) were analysed with regard to the four PSSI levels, and the depression group was compared with the control group. A 'rank order of risk' was determined by considering the 70% cut-off point as zero, summating the values in the negative categories ('serious' and 'doubtful/unsatisfactory') and the positive categories ('satisfactory' and 'very good'), and finally determining the differences between the various categories. The rank order in both groups was very similar with 'security' and 'stimulation' tying for third place in the depression group. The categories are ranked from most unfavourable to least unfavourable (Table X).

TABLE X. PSSI SUBCATEGORIES IN 'RANK ORDER OF RISK'

1 **Contact with meaningful others**
2 **Meaningfulness**
3 **Security**
4 **Stimulation**
5 **Independence**

Although the subcategories 'contact with meaningful others' and 'meaningfulness' are strongly unfavourably inclined in both groups, the subtotals in the depression group were more favourable in these as well as in the other three subcategories. The difference between the two study groups in these subcategories was expressed as a percentage of 136 (range of difference) (Table XI).

TABLE XI. DIFFERENCE BETWEEN THE PSSI SUBCATEGORIES IN THE TWO STUDY GROUPS

Subcategory	% difference*
Meaningfulness	**19**
Contact with meaningful others	**20,7**
Independence	**23,2**
Stimulation	**29**
Security	**57,4**

* Expressed as a percentage of 136 (the range of difference).

Not surprisingly, the biggest contrast between the groups was found in the subcategory 'security' (mainly concerned with material security). Results of chi-square tests of significance performed on the subcategories are shown in Table XII.

The most unfavourable category, 'contact with meaningful others' was compared with regard to 'living alone' and 'living with spouse' (Table XIII). The most notable aspect of this comparison is that in the depression group a close to 'very good'

TABLE XII. CHI-SQUARE TESTS OF SIGNIFICANCE — PSSI SUBCATEGORIES

Subcategory	χ^2 total	χ^2 trend
Contact with meaningful others	**$P<0,05$**	**$P<0,03$**
Meaningfulness	**$P<0,02$**	**$P<0,01$**
Independence	**$P<0,015$**	**$P<0,003$**
Stimulation	**$P<0,0005$**	**$P<0,0001$**
Security	**$P<0,0001$**	**$P<0,0001$**

TABLE XIII. COMPARISON WITH REGARD TO LIVING ARRANGEMENTS

	Living alone		Living with spouse	
	DG	CG	DG	CG
% of total (DG = 102; CG = 88)	**16,7**	**30,7**	**36,3**	**22,7**
PSSI	**17,9**	**9,0**	**26,4**	**12,5**
DRI_{cp}	**57,5%**	**20,1%**	**67%**	**16,4%**

DG = depression group, CG = control group.

PSSI (26,4) was associated with a close to 'seriously' high DRI_{cp} (67%) in patients living with their spouses, in contrast to the findings in the control group. In spite of their highly favourable general psychosocial status, and their living happily with their spouses, these elderly patients still carried a high risk of depression (as measured by the DRI_{cp}) and were not protected by their favourable circumstances.

Conclusions

The depression group, with a high load of psychiatric (depressive) disorder, carried a relatively low psychosocial stress load. The control group, with a higher psychosocial stress load, carried a low depression load.

There was no positive correlation between unfavourable psychosocial circumstances and depressive illness among the elderly population studied, but a clear association existed between depressive illness and factors which may generally be considered indicative of constitutional predisposition to depression.

Hypothetical proposition 2 is supported by the results of the study; psychogeriatric service programmes for the prevention and management of depressive illness in the elderly, in the population studied, should be planned and implemented accordingly.

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Appendix

					Score
	10.41	Spouse:	Opportunity:	*Poor relationship*	-1
and:	10.42	Spouse:	Need =	None/Little	
	10.41	Spouse:	Opportunity:	Poor relationship	-2
and:	10.42	Spouse:	Need =	Moderate	
	10.41	Spouse:	Opportunity:	Poor relationship	-3
and:	10.42	Spouse:	Need =	Strong	
	10.41	Spouse:	Opportunity:	*Neutral relationship*	0
and:	10.42	Spouse:	Need =	None/Little	
	10.41	Spouse:	Opportunity:	Neutral relationship	-1
and:	10.42	Spouse:	Need =	Moderate	
	10.41	Spouse:	Opportunity:	Neutral relationship	-2
and:	10.42	Spouse:	Need =	Strong	
	10.41	Spouse:	Opportunity:	*Satisfactory relationship*	0
and:	10.42	Spouse:	Need =	None/Little	
	10.41	Spouse:	Opportunity:	Satisfactory relationship	+1
and:	10.42	Spouse:	Need =	Moderate	
	10.41	Spouse:	Opportunity:	Satisfactory relationship	+2
and:	10.42	Spouse:	Need =	Strong	
	10.41	Spouse:	Opportunity:	*Deceased*	0
and:	10.42	Spouse:	Need =	None/Little	
	10.41	Spouse:	Opportunity:	Deceased	-1
and:	10.42	Spouse:	Need =	Moderate	
	10.41	Spouse:	Opportunity:	Deceased	-2
and:	10.42	Spouse:	Need =	Strong	
	10.41	Spouse:	Opportunity:	*Divorced*	0
and:	10.42	Spouse:	Need =	None/Little	
	10.41	Spouse:	Opportunity:	Divorced	-1
and:	10.42	Spouse:	Need =	Moderate	
	10.41	Spouse:	Opportunity:	Divorced	-2
and:	10.42	Spouse:	Need =	Strong	
	10.41	Spouse:	Opportunity:	*Separated*	0
and:	10.42	Spouse:	Need =	None/Little	
	10.41	Spouse:	Opportunity:	Separated	-1
and:	10.42	Spouse:	Need =	Moderate	
	10.41	Spouse:	Opportunity:	Separated	-2
and:	10.42	Spouse:	Need =	Strong	
	10.41	Spouse:	Opportunity:	*Unmarried*	0
and:	10.42	Spouse:	Need =	None/Little	
	10.41	Spouse:	Opportunity:	Unmarried	-1
and:	10.42	Spouse:	Need =	Moderate	
	10.41	Spouse:	Opportunity:	Unmarried	-2
and:	10.42	Spouse:	Need =	Strong	