

The Relation Between Social Connections and Physical Illnesses Symptoms

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Abstract:

This study aimed to answer what the relation between social connections and physical illness symptoms really is, we worked on a sample of **69** patients in three hospitals. We found that: More than **86%** of participant who reported low physical illnesses symptoms according to their Doctors, trust a number of people (which they could tell secret) four times more than those who reported high symptoms rates. More than three quarters of participants who reported higher rates of physical illnesses symptoms, received a daily phone calls from their friends two times less than those who reported lower rates of symptoms.

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1. Introduction:

Any one of us could live lonely even if he was surrounded by a lot of people, it's not an issue of number or breadth, but quality and depth.

By experience, it can be said that the individual, as he gets older, finds that he has filtered his network, we can say that there is a social connection between that individual and the only one who maintains his place in that network.

From this point of view, we consider social connections in their realistic and accurate sense as an unconditional and unpragmatic relationships, characterized by strength and stability.

Social connections describe the size, density, frequency and duration of social contacts (**Bott E. 1955, p 01**). Also, it's the relationships people have with others, such as the frequency and nature of contact with family or friends (**Brian Beach, 2017, p 03**). The umbrella term social connection represents a multifactorial construct that includes structural, functional, and qualitative aspects of social relationships, all of which contribute to risk and protection (**Holt-Lunstad J, Theodore F. Robles, 2017, p 01**).

What we know about social connections, is that the lack of it is a real risk factor impacting physical health outcomes (**Pamela J. LaBorde et al, 2022, p 13**), while social separation has a negative impact on physical health (**paul s.greenman, Susan M.Johnson, 2022, p 146**), also, lacking of social connections qualifies as a risk factor for premature mortality (**Julianne Holt-Lunstad, 2018, p 437**), and the most characteristic feature of individuals suffering from a decline in general health, is that they are in a state of isolation and social loneliness (**Anna Krzeczowska et al, 2021, p 01**),



furthermore, lack of it is a major factor of mortality, and it harms health more than obesity, smoking and high blood pressure (**James S. House et al, 1988, p 540**). Likewise, individuals with coronary artery disease who were not socially connected, had a 2.4 times greater risk of cardiac death than their more socially connected peers (**Brummett, Beverly H. 2001, p 267**). And if we take into account the pandemic consequences, it can be said that lockdown is estimated to have increased depressive symptoms by approximately 23% and feelings of loneliness by 4% (**James O'Donnell et al, 2022, p 01**).

On the other side, people who have a strong social connections, benefits same as those that use to have a good night's rest, a healthy diet, or a smoke-free environment (**Harvard Health Publishing, 2010**), as well, higher scores of positive relationships were associated with decreased risk for colds (**Sheldon Cohen et al, 2003, p 389**), ditto, physiological impacts of structural and functional dimensions of social connections emerge uniquely in adolescence and midlife and persist into old age (**Yang YC Yang YC, 2016, p 578**). In a study of 4,606 articles included original peer-reviewed research published in English between January 2000 and April 2020, found that survivors of cancer have satisfactory social connectedness (**Daniel A. Pahl et al, 2021, p 15**). Social connections significantly reduce the risk of cognitive decline (**Zili Fan et al, 2021, p 01**). And many other effects, where according to some studies these effects emerge in childhood and cascade throughout life to foster cumulative advantage or disadvantage in health (**Debra Umberson, Jennifer Karas Montez, 2011, p 01**).

But, what we don't know about Social connections (the gap), is whether it has an effect on the physical illnesses symptoms, i.e. whether it there was a relation between social connections and



physical illnesses symptoms or not. And we're going to filling it by asking the subsequent question:

Is there any relation between social connections and physical illnesses symptoms?

Hypothesis: There is an inverse relation between social connections and physical illnesses symptoms.

1. METHODS:

A comparative descriptive methodology was used, the study extended from **December 24, 2021** to **February 06, 2022**, and lasted for six weeks. Statistically, the current study used frequencies, percentages, and Pearson correlation coefficient. we worked on a sample of **69** patients in three hospitals: Zighoud Youcef Hospital (Tenes): 38 Participants, El Sobha Hospital (Chlef): 17 Participants, Ouled Mohammed Hospital (Chlef): 14 Participants.

The study used a survey consisting of 06 questions about: gender, age, level of education, the physical illness, the number of people you trust, and the number of calls you receive from friends daily.

3. RESULTS:

Table 1. Demographics of 69 Participant Patients

Characteristic		N (69)	%
Gender	Male	44	63.76
	Female	25	36.23
Age	<20	09	13.04
	[20-40]	21	30.43
	>40	39	56.52
Level of education	Primary school or less	15	21.73
	Middle school	18	26.08
	Secondary (high school)	17	24.63
	University	19	27.53
The physical illnesses	Fever, Colds and Flu.	16	23.18
	Kidney failure	05	07.24
	Cirrhosis	10	14.49
	Cardiovascular disease	17	24.63
	Osteoporosis	03	04.34
	Diarrhea.	02	02.89
	Headaches.	10	14.49
	Stomach Aches.	06	08.69

The participants consisted of a majority of males (63.76%), and the most common age was those over 40 years old with 56.52%.

The educational level of the participants was very close, with the largest percentage of 27.53% in favor of the university level.

The largest proportion of participants (24.63%) had

cardiovascular disease, closely followed by those with fever, colds and flu (23.18%).

Table 2. The relation between the number of people that patients trust and their physical illnesses symptoms

People they trust in	Symptoms						Σ		R
	Low		Middle		Hight				
	F	%	F	%	F	%	F	%	
[01-04]	00	00	09	26.47	06	46.15	15	21.73	-0.78
[05-08]	01	04.54	16	47.05	04	30.76	21	30.43	
[09-12]	19	86.36	05	14.70	03	23.07	27	39.13	
[13-16]	02	09.09	04	11.76	00	00	06	08.69	
Σ	22	100	34	100	13	100	69	100	

The results indicate that 86.36% of participant who reported low physical illnesses symptoms according to their Doctors, trust in 09~12 people (which they could tell secret), after the length and number of classes were determined by **Sturges Rule**:

$$k=1+3.322(\log_{10}n)$$

$$\approx 4$$

Whilst, this percentage drops to 23.07% among the respondents who reported hight physical illnesses symptoms.

Also, the **Pearson correlation coefficient** between the number of people that the participants trust in, and illnesses symptoms was - **0.7857** (P-value: 0.4246).

Table 3. The relation between the number of friends' daily phone calls that patients usually receive, and their physical illnesses symptoms.

Friends' daily phone calls	Symptoms						Σ		R
	Low		Middle		Hight				
	F	%	F	%	F	%	F	%	
[01-04]	00	00	04	11.76	10	76.92	14	20.28	-0.69
[05-08]	20	90.90	20	58.82	03	23.07	43	62.31	
[09-12]	02	09.09	05	14.70	00	00	07	10.14	
[13-16]	00	00	05	14.70	00	00	05	07.24	
Σ	22	100	34	100	13	100	69	100	

It is noticeable that 90.90% of participant who reported low physical illnesses symptoms according to their Doctors, received a daily phone calls from their friends two times more than those who reported hight rates of symptoms.

At the other side, 76.92% of participant who reported higher physical illnesses symptoms, received phone calls from their friends only 1~4 time a day.

As well, the **Pearson correlation coefficient** between the number of Friends' daily phone calls, and illnesses symptoms was - **0.6987** (P-value: 0.0624).

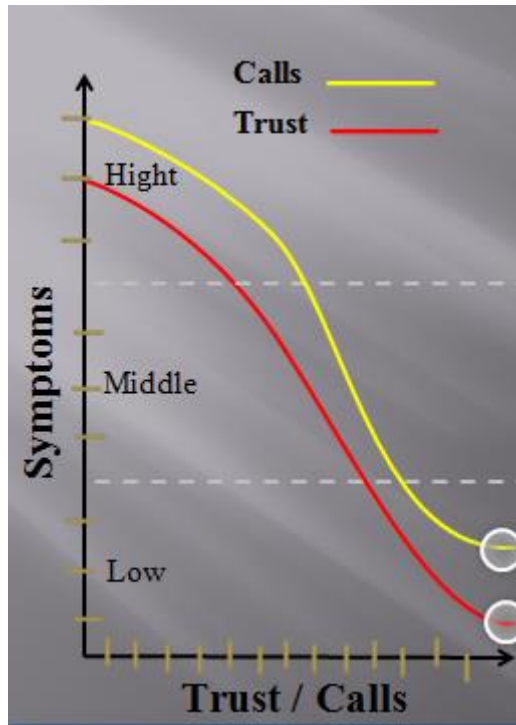


Fig.2. Symptom rates according to trust and calls.

Trust rates and friends' daily phone calls were low for patients with high rates of symptoms, and as trust and calls goes up, the more symptoms goes down.

Until we reach 14 people, the curve stabilizes, and symptoms stop regressing further even if the number of people goes up.

It's also noticed that the trust curve is always lower than the calls curve, means whatever the number of calls we receive, we do trust in a less number of people.

4. DISCUSSION:

We conclude that the majority (08/61.53%) patients with high rates of symptoms were females, and this is because males are less willing to talk about their problems and what they suffer from than females.

73.33% (11 out of 15) of patients with less trust levels [01-04], their education level was University. This result is consistent with the findings of the study of **Heather Coats and others**, which found that higher trust was associated with lower education ($P = 0.019$) (**Heather Coats et al, 2018, p 530**). This can be explained by the experiences that the individuals goes through, because children have ideal perceptions of the world, as well, they have generally positive attitudes towards others, but through socialization and education, they begin to notice and realize that life is not always pink, and they will consider them as a minority, those who really deserve that trust.

We conclude as well that there is an inverse correlation between social connections and physical illnesses symptoms by -0.74 (-74%), this result can be justify by behaviors dictated by social connections, which provide information and create norms that further influence health habits (**Debra Umberson, Jennifer Karas Montez, 2010, p 56**). For Example, cigarette smoking by peers is among the best predictors of smoking for adolescents (**Hope Landrine et al, 1994, p 331**).

Also, healthy behaviours like physical activity and eating fruits and vegetables are more likely to be reported by those with greater social connections, and as a consequence, their bodies produce more antibodies than the others (**Sheldon Cohen, 2004, p 680**), what produces a strong immunity, therefore, a fewer physical illnesses symptoms.

People with a weak social connections have a higher levels of Symptoms, because they report higher levels of stress (**my Health my**



Community Org, 2018, p 01), which complicates their illnesses conditions, Doctors them-selves often ask them for support, through calm, optimism and positive thoughts, and ask their networks (family, friends, neighbors, etc.) to stand with them closely, because more close friends, mean fewer depressive symptoms (**May I. Conley et al, 2020, p 01**) and faster recovery, owing to the fact that across 148 studies (308,849 participants), participants with stronger social connections were found to be 50% more likely to survive (**Holt-Lunstad J. et al, 2010, p 01**).

As a conclusion, social connections play a real role in determining the levels of physical illnesses symptoms, by creating a set of contexts that have a direct impact on the individual's health, for example, those connections may define our weekly outings and visits that we do, and often, the more friends that we make, the more hobbies and activities we may practice.

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