

Assessing the role of physical illness in young old and older old suicide attempters[†]

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Objectives: Attributions for attempting suicide were explored in older adults with and without serious physical illness.

Methods: An open-ended question was used to explore attributions for attempting suicide in 101 hospitalized persons aged 70+. Serious physical illness was defined as a score of 3 or 4 on any of the 13 non-psychiatric organ categories in the Cumulative Illness Rating Scale for Geriatrics.

Results: Roughly one-third of hospitalized persons with (22/62) and without (12/39) serious physical illness attributed the suicide attempt to somatic distress. Among 70- to 79-year-olds, seriously physically ill patients were more likely than healthier patients to attribute their attempt to psychological pain (84% vs. 48%, $p=0.013$). There were no significant differences in attributions in persons with and without serious health problems in the 80+ group.

Conclusions: The processes by which physical illness confers risk for attempted suicide in older adulthood may be age dependent. Interventions are needed to mitigate psychological pain in physically ill older patients, especially those in their seventies. Research is needed to understand how the psychological processes that influence the desire for suicide change across older adulthood. © 2015 The Authors. *International Journal of Geriatric Psychiatry* Published by John Wiley & Sons Ltd.

Key words: suicide attempt; physical illness; attributions

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Introduction

Although a number of studies have shown a relationship between physical ill health and both non-fatal (Tsoh *et al.*, 2005; Levy *et al.*, 2011) and fatal (Waern *et al.*, 2002; Duberstein *et al.*, 2004) suicidal behavior in later life, not all show such an association (Conwell *et al.*, 2000; Preville *et al.*, 2005). It remains unclear how physical illness may lead to elevated risk for suicidal acts in some older individuals but not in others.

We recently reported data on responses of older adult suicide attempters to the open-ended question “Why did you attempt suicide?” (Van Orden *et al.*, 2015). In the current study, we hypothesized that physically sicker persons would be more likely to attribute the attempt to physical ill health, on the grounds that more serious physical conditions would be likely to impact negatively on everyday function (Fässberg *et al.*, 2015) autonomy (Preville *et al.*, 2005) and overall quality of life, all of which could elicit a suicidal process. We also explored sex and age differences.

Methods

One hundred and one hospitalized suicide attempters (46 men and 55 women, mean age = 79.6, age range = 70–91) participated (Wiktorsson *et al.*, 2010). For the purpose of this study, persons aged 70–79 ($n = 48$, 23 women and 25 men) were considered “young old,” and those aged 80 and above ($n = 53$, 32 women and 21 men) “older old.” Participants were recruited from five hospitals in western Sweden during a 3-year period (2003–2006). A psychologist (S.W.) conducted all the face-to-face interviews. The median time between the suicide attempt and the interview was 11 days.

As per our previous study on physical illness and completed suicide in late life (Waern *et al.*, 2002), medical records and interview material were reviewed, and ratings made in accordance with the Cumulative Illness Rating Scale for Geriatrics (CIRS-G) (Miller *et al.*, 1992). A person was considered to have a serious physical illness/disability when scoring 3 (corresponds to severe/constant significant disability/“uncontrollable” chronic problems) or 4 (corresponds to extremely severe/immediate treatment required/end organ failure/severe impairment in function) in any of the 13 non-psychiatric organ categories. All ratings were made in consensus with the last author (a senior psychiatrist).

A single open-ended question “Why did you attempt suicide?” was used to explore attributions for the attempt. In qualitative analyses, two coders (S.W. and A.I.B.) identified seven attributions (Van Orden *et al.*, 2015): somatic problems and pain, functioning and autonomy, psychological problems, social problems, lack of meaning, perceived burden, and escape. For the current analyses, two broad categories were created: “somatic distress” (somatic problems/physical pain and functioning/autonomy) and psychological pain (psychological problems, social problems, lack of meaning, perceived burden, and escape). A third category, “no explanation” included responses reflecting no understanding or memory of the event, or a desire to die or sleep and not wake up without a specific reason.

Statistics and ethics

Fisher’s exact test was used to test for differences in proportions. Mean values were compared with the *t*-test. We performed all exploratory and formal statistical analyses with SPSS version 15.0 (IBM, Armonk, NY, USA) for Windows. All participants received oral and written information about the study. They were informed that they could withdraw from the study at any time. Written consent was obtained. The research

ethics committee at the University of Gothenburg approved the study.

Results

Attributions of somatic distress were reported in 34% of the total sample. The corresponding figure for psychological pain was 60%. Almost a quarter (22%) attributed their attempt to both somatic distress and psychological pain, and 28% (28 out of 101) gave no explanation. There were no sex differences regarding attributions (somatic distress; men 35% vs. women 33%, $p = 0.836$, psychological pain; men 61% vs. women 60%, $p = 1.000$, both somatic distress and psychological pain; men 26% vs. women 18%, $p = 0.468$ and no explanation; men 30% vs. women 26%, $p = 0.658$). Nor did mean CIRS-G scores differ in men and women (10.1 vs. 8.7, $t = 0.703$, $df = 99$, $p = 0.092$). In all, 62 persons (61%) had at least one serious physical illness or disability (men 47% vs. women 53%, $p = 0.838$).

In the total group, proportions attributing their attempt to somatic distress did not differ in those with and without serious physical ill health (36% vs. 31%, $p = 0.671$); this was inconsistent with our hypothesis. Two-thirds (68%) of those with serious physical illness and one-half (49%) of those without reported psychological pain as a reason for the attempt ($p = 0.064$). Twenty-three percent (14 out of 62) of those with serious physical illness gave no explanation. The corresponding figure for those who were physically healthier was 36% (14 out of 39, $p = 0.174$).

Less than half of the septuagenarians with serious physical ill health attributed their attempt to somatic distress. Psychological pain was reported as a cause for attempting suicide in 84% ($n = 21$). This proportion was significantly greater than that observed in those without physical ill health (Table 1). The table shows further that only a third of those with physical ill health in the 80+ group reported somatic distress as a reason for the attempt, a proportion that did not differ significantly from that observed in the group with better health (44%). The attempt was attributed to psychological pain in about half of those with serious physical illness in the older group, a portion similar to that reported by those without serious physical ill health.

Discussion

A third of the suicide attempters with serious physical ill health attributed the attempt to somatic distress.

Table 1 Characteristics of hospitalized older suicide attempters by age group and attributions^a for the attempt by age group and health status

Characteristics	Age 70–79 (n = 48)			Age 80 and above (n = 53)		
	n (%)		p-value ^b	n (%)		p-value ^b
Living alone	31 (65)				38 (72)	
Married/cohabiting	18 (38)			17 (32)		0.676
Education, mandatory only	23 (48)			33 (62)		0.165
Serious physical illness	25 (52)			37 (70)		0.101
	CIRS-G ^c score			CIRS-G ^c score		
	3 or 4 n (%)	0, 1, or 2 n (%)	p-value ^b	3 or 4 n (%)	0,1 or 2 n (%)	p-value ^b
Attributions						
Somatic distress	10 (40)	5 (22)	0.221	12 (32)	7 (44)	0.536
Psychological pain	21 (84)	11 (48)	0.013	21 (57)	8 (50)	0.766
No explanation	2 (8)	8 (35)	0.033	12 (32)	6 (38)	0.759

^aSubjects could report several reasons.

^bFisher's exact test.

^cCumulative Illness Rating Scale for Geriatrics. There were no significant age group differences regarding attributions; somatic distress ($p = 0.836$), psychological pain ($p = 1.000$), both somatic distress and psychological pain ($p = 0.468$), and no explanation ($p = 0.658$).

Septuagenarians with serious physical illness were more likely to report psychological pain as the reason for the attempt than their peers in better physical health. To the best of our knowledge, this is the first study to show that psychological processes play a greater role in the suicide attempts of people in poorer physical health than those in better physical health. No difference was seen regarding psychological pain in those with and without serious somatic illness in the 80+ group. It is possible that psychological responses to physical illness differ with age.

These findings suggest some testable hypotheses. Age-related brain changes in the older age group may help to explain our finding. Reduced cognitive function may have influenced older individuals' reports and memories of their motives prior to engaging in suicidal behavior. An alternative explanation might be that psychological distress was actually present among the physically ill in both age groups, but that the older group declined to acknowledge it, responding to interview questions with "a stiff upper lip." A relatively large proportion of persons in both age groups gave no specific reason for their attempt. This might in part be explained by alexithymia as well as difficulties in recognizing and communicating social emotion, a phenomenon that has been demonstrated in suicidal older persons (Levi *et al.*, 2008; Szanto *et al.*, 2012). No sex differences were found regarding both overall illness score and attributions for

the attempt. This was a bit unexpected as our previous research from the same catchment area (Waern *et al.*, 2002) suggested a sex difference regarding the role of physical illness in late-life suicide. While CIRS-G scores were numerically higher in male attempters in the current study, the difference did not reach significance, which might reflect a power problem. The current study lacks CIRS-G data for a population-based comparison group, which would be an important addition for further study.

Strengths of the study include the size of the 80+ group, which is relatively large in comparison with previous clinical studies focusing on older adults with non-fatal suicidal behavior, the exploration of sex differences, and the use of both medical records and interview data for the examination of somatic illness. While records yield better-quality disease-specific data, interviews have been shown to be a better source of information on functional impairment and disability (Wilhelmson *et al.*, 2006). Several limitations need to be addressed. One is the cross-sectional design. The observed age difference regarding attributions could be related to aging or birth cohort effects. Further, the study lacked power to carry out multivariate analyses, but we observed no sex, marital status, or education differences in the two age groups. A final consideration is that data are based on a single open-ended question. For ethical reasons, there were no prompts to facilitate further exploration when

participants said that they could not remember or could not explain their reasons for attempting suicide, given their acute and vulnerable state.

Conclusions

Our findings suggest that the association between physical ill health and late-life suicidal behavior differs with age, and that psychological processes contribute to the suicide attempts of a substantial majority of physically ill septuagenarians. Older adults' own explanations, as well as those related by next of kin of deceased individuals (Kjolseth *et al.*, 2010), can inform the development of suicide prevention strategies. This is important as particularly high rates of suicide are observed in older populations in many countries worldwide.

Conflict of interest

None declared.

Key points

- Sixty-one percent had serious medical conditions, and 34% of these attributed the attempt to somatic distress.
- Physically ill septuagenarians were more likely to attribute the attempt to psychological pain than their healthier peers.
- Octogenarians with and without serious physical illness did not differ in their attributions.
- Psychological processes by which physical illness confers suicide risk in older adulthood may be age dependent.

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