QUALITATIVE AND QUANTITATIVE METHODS OF SUICIDE RESEARCH IN OLD AGE

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ABSTRACT

This paper examines the merits of the qualitative and quantitative methods of suicide research in the elderly using two studies identified through a free search of the Pubmed database for articles that might have direct bearing on suicidality in the elderly. The studies have been purposively selected for critical appraisal because they meaningfully reflect the quantitative and qualitative divide as well as the social, economic, and cultural boundaries between the elderly living in sub-Saharan Africa and Europe. The paper concludes that an integration of both the qualitative and quantitative research approaches may provide a better platform for unraveling the complex phenomenon of suicide in the elderly.

Keywords: Psychological autopsy, Suicidal behaviours, Thematic analysis, Phenomenology

INTRODUCTION

Suicide may be considered a common and devastating emergency in the general practice of mental health. It is a phenomenon that is largely complex and inherently difficult to predict. Suicidality, which is the spectrum of psychological activities that culminates in the eventual death of the individual, may be especially complicated in the elderly. This is because people of that age group are known to traverse the continuum of suicidal behaviour with extraordinary secrecy, determination and lethality. Thus, there may be up to three new cases of elderly suicide for every one below the age of 25 years in many countries.[1,2] Given the intricate nature of the phenomenon in the elderly, understanding the immediate and remote factors that may be suggestive of imminent death by suicide may be an important step towards setting up targeted interventions before it is too late.

In the context of suicide research, immediate pointers to an impending suicide may, on the one hand, include the subjective 'experience' of suicidal ideas or the wish to die. This very personal experience may sometimes be expressed in signs and symptoms such as talking or writing about the end. A phenomenon often referred to as suicidal warnings[3]. In this regards, immediate factors for imminent suicide may encompass the 'meanings' attached to such notices by their recipients. The understanding of people's experiences and meanings may be strengthened by the qualitative research framework.[4] In contrast to the meanings and experiences of the individual, the more remote pointers to imminent suicide may include correlates of suicidality within the larger population. The investigation of such independent risk factors within the population, or a systematically generated sample from it, may be underpinned by the quantitative research model.[5]

To provide a portrayal of how an integration of the qualitative and quantitative paradigms may assist in deepening the understanding of suicidality in the elderly, this review aims to critically compare two studies using contrasting approaches in elucidating the factors related to suicide in older adults.

Selected studies

The two studies were purposively selected for this review, among 29 articles dealing with various aspects of the phenomenon, because they meaningfully reflect the quantitative and qualitative divide, as well as the social, economic, and cultural boundaries that may be relevant for suicide research in the elderly. Details of both papers are presented in table 1.

The first study, hereafter referred to as Kjolseth and Ekeberg[6], was an investigation of the experiences and reactions of people to warnings they have received about the suicidal intention of their elderly wards. The authors relied on the technique of psychological autopsy[7]. Wherein, they re-created the circumstances of the suicide through interviews of formal and informal carers of individuals who had died in that manner aged 65 years or over. The second study, hereafter referred to as Ojagbemi, *et al* [8], examined the predictive relationship between several health related variables and three suicidal behaviours occurring on a continuum. The authors relied on a multi-stage probability sample of participants aged 65 years or

Table 1: Evidence table for appraised studies[19]

Reference	Population	Methods	Analyses	Relevance to the studied population
Ojagbemi, *et al*, (2012)	Elderly aged 65 years or older living in communities spread across a geographical area with a population of about 25 million people	Well reported methods based on a multi-stage probability sample of 2149. Measurement tools were validated in the studied population	Well reported and credible regression analyses with adequate control for confounding factors	Nigeria. General elderly population
Kolseth and Ekeberg (2012)	Elderly aged 65 years or older living in communities spread across 10 counties in southern Norway	Well reported methods of psychological autopsy based on qualitative interviews of 63 informants of 23 suicide victims	Well reported and credible variant of thematic analyses	Norway. General elderly population

above living in communities spread across a geographical area with a total population of about 25 million inhabitants.

Critical appraisal

Research questions and designs

The main research question explored by Kjiolseth and Ekeberg was; how do people in Norwegian communities perceive and react to suicidal warnings communicated to them by the elderly around them? Perception in this context may be understood in a broad sence as the individual's cognizance of the events external to them. Such perception may also feedback on how the individual will react. In the view of empiricists such as Locke[9], the awareness of externally occurring events may only be possible if they were mentally represented. In this regards, the 'reality' is created in the mind of the recipient. Further, Bekerley[10] contends that this reality is inherently modifiable according to previous experiences. Therefore, since the experiences of different individuals may be inherently different, the proposition of a 'single' reality may be less likely. In other words, the research question of Kjiolseth and Ekerberg may be best answered if the perception and reaction of a variety of carefully selected individuals, who may have received the suicidal warnings, are considered. Qualitative interviews may afford the opportunity for the researchers in this instance to generate more nuanced accounts from a wide selection of persons who may be knowledgeable about the phenomenon of interest.

On their own part, Ojagbemi, *et al* wanted to find out if there were indices of health and wellbeing that may demonstrate predictive associations with suicidality in the general elderly population living in a sub-Saharan African community. This research question may suggest as follows; firstly, by indices, the authors appear to be interested in numerical indicators of health and wellbeing. Secondly, by predictive associations, they may also be interested in relationships. Thirdly, Ojagbemi, *et al* appear interested in the general population, rather than individuals. The interest of the authors in the examination of predicted relationships between indices, with a focus on the general population, may support a non-experimental quantitative approach. [11]

In line with the quantitative framework, Ojagbemi, *et al* specifically investigated the predictive relationship between a wide range of demographic and health related variables and three categories of suicidal behavior in people who have attained the age of 65 years or over at the start of their inquiry. They additionally sought to examine the transition between one behaviour and another. These categories of behaviour were namely; suicidal ideation, suicidal plans, and suicidal attempts. They hypothesized that several of the health and wellbeing indicators will statistically predict the presence of these suicidal behaviours. The study was a community based cross-sectional survey of the elderly living in a geographical area equivalent to a quarter of the Nigerian national population at the time of study. Given the research question about predictive associations, the exploration of many predictor variables should allow the investigators to examine the independent effect of one variable at a time, while holding the others constant. Furthermore, given the interest of the authors on sub-Saharan African populations, the focus on communities spread over a wide geographical area should allow for a wider generalisation of their results to several sub-Saharan African communities. On the other hand, the community based design may inherently exclude elderly persons in care and nursing homes, as well as those in

hospitals. Also, the cross-sectional design makes the picture unclear as to whether the elderly in Ojagbemi, *et al* have had these behaviours long before they attained the age of 65 years. As such, it may be argued that their results may not have accurately captured the situation in the sub-Saharan African elderly aged 65 years and over. Rather, the findings may reflect the reality in a population of community dwelling adults with a broader, and perhaps younger, age demography. In the context of quantitative research, the presence of such background 'noise' in the relationship between variables may be generated by a 'systematic error' in the study design.[12]

Given the research questions of Kjiolseth and Ekerberg about how people perceived notices of suicide communicated to them, a re-enactment of the situation surrounding the eventual suicide, through the account of key informants, may help shed light on people's experiences and the processes involved in their individual reactions. In the context of qualitative research, the study of such very subjective meanings may also be referred to as the phenomenology.[13] However, with individual meanings it may be difficult to demonstrate 'probabilistic' generalisability to the wider group of carers of the suicidal elderly. Probabilistic generalisability is a quantitative research concept that is often based on sampling procedures and statistical elimination of 'chance'.[14, 15]

Kjiolseth and Ekerberg have relied on a purposive sampling method. In the particular instance of their study, the authors were notified by the local medical officers, over a period of 18 months, of all definite suicide occurring within 10 counties around the study location. They have relied on the report of 23 suicide cases. An eventual sample size of 63 informants was selected based on a ratio of 2 or 3 informants per case. Informants were either close relatives, general practitioners (GPs), or home based care nurses who had close contacts with the suicide case in the year before their death. Given the interest of the investigators in the perception and reaction of individuals to the suicidal notices of their elderly wards, it appears expedient to focus the investigation on participants who should be able to provide sufficient depth and extent of information about the phenomenon. The careful selection of participants from among close relatives, GPs, and home care nurses should provide a rich amount of valid information assembled from varying perspectives. This approach to sampling may generate an in-depth understanding of the phenomenon of interest. From the standpoint of qualitative research, the degree to which the results of an investigation represent the truth within the context of the source of such findings is known as internal or contextual validity.[16] However, suicide is still associated with stigma in many societies.[2] This sensitivity may, in fact, result in the selection of accessible, rather than representative, participants. In this case, a sample of convenience[4] may be a valid, perhaps sustainable, description of the approach of Kjiolseth and Ekerberg.

Approaches to sampling and data management

The study by Ojagbemi, *et al* was based on a multistage area probability sample of the elderly living in households spread over the study location. From 15 strata, based on counties and urban versus rural locations, they selected primary sampling units (PSU). Four secondary sampling units (SSU) were then systematically selected from each PSU. The authors then conducted a census within each of the selected SSUs from where a random sample of households with individuals aged 65 years or over were selected. One individual was selected from each household. For households with more than one eligible individuals, the one individual was selected using a systematic method.[17] In all, the authors relied on an eventual sample of 2149 participants. The research question of Ojagbemi, *et al* suggests that they were interested in the general population of the elderly living in a wide geographical area. In this regard, it would have been the ultimate for the investigators to access every elderly person living in the location of interest. However, the logistics involved would mean that this may be nearly impossible to achieve. As such, the authors systematically biopsied the population of interest for a representative sample. This very painstaking selection process is capable of producing information that may be generalisable to the wider population. On the other hand, the process of multistage area probability sampling as conducted by Ojagbemi, *et al* may also result in the systematic exclusion of large numbers of eligible individuals. In this way, a valuable opportunity for nuanced and varied perspectives is often missed.

The likelihood of missing such organic variations in individual perspectives may also be a limitation of the use of structured questionnaires for data collection. This was the method favoured by Ojagbemi, *et al*. Although, given the authors' research question about value markers of suicidality, unstructured questionnaires or interviews would have limited the efficient use of the resources available to the researchers. Structured interviews may save valuable research time and cost. Moreover, this type of data collection method may engender a higher level of reliability when compared with semi-structured or unstructured questionnaires. The reliability of a measure represents its 'replicability'.[12] The study by Kjiolseth and Ekerberg was also based on interviews. Interviews in qualitative research are very often unstructured, or at least semi-structured.

The authors' research question which relates to very personal experiences may be best answered in the required depth and width if the informants are not restricted to yes or no answers.

In conformity with this rationale, Kjiolseth and Ekerberg collected mainly descriptive data. Descriptive data have the advantage of providing possibilities for expressing the subjective experiences of the individual. This connects with the authors' research question about people's perception and reaction. In accordance with the nature of descriptive data collected from a variety of informants, Kjiolseth and Ekerberg relied on a variant of 'thematic analysis', the systematic text condensation method[18], as the preferred data analysis procedure. In this way, the text elements that constituted the 'meaning units' of the data were systematically extracted, coded, and later validated against the original text. While this method is valid and able to generate new concepts and hypotheses, proper coding and interpretation of descriptive data may be laborious, time consuming, and subject to the researcher's own 'sensitivities'. In this regard, it is often very difficult to achieve pure 'bracketing'. Bracketing, as proposed by Edmund Husserl[11], is the suspension of the researcher's pre-conceived ideas in qualitative data extraction and coding.

In keeping with the research question about value indicators of suicidality, Ojagbemi, *et al* have relied on numerical data. They have provided an in-depth overview of the characteristics of the participants in their study by relying on descriptive statistics such as proportions, percentages and means. Also, and in line with the research question about relationship between these numerical indicators and suicidal behaviours, the authors have relied on the logistic regression model for the investigation of interactions between the variables of interest. Logistic regression is an inferential statistic that is able to generate numerical predictions of associations between several indicator variables and a binary outcome variable within the limit of probabilities.[12]

Strength and limitations of the selected studies

Overall, the quality of the study by Kjiolseth and Ekerberg may be assessed from their use of a fairly large and varied sample for a qualitative research that has relied on the method of interpretative phenomenology. This approach to sampling should help in providing a comprehensive answer to the research question of the authors. However, their interviews involved a retrospective recollection of an event which may, in most cases, be laden with intense emotionality. Shame, denial, guilt, and anger may well influence the recollection of suicide in a close relative or ward. By extension, these reactions may influence the nature of information collected. Similarly, the coding and interpretation of the data may be tinged with the researchers own prejudices. On their part, Ojagbemi, *et al* have relied on a large and carefully selected sample from communities spread over a wide geographical area within the setting of interest. Also, they have deployed a range of descriptive and inferential statistics in analyzing the data generated. These methods may help provide generalizable answers to the research question of the authors. However, the cross-sectional design may have blurred the answer as to whether these were experiences in the elderly (i.e., those who were 65 years and older) or the general population of older adults (i.e., including those who were younger than 65 years of age).

CONCLUSIONS

The qualitative approach of Kjiolseth and Ekerberg may help unravel the more immediate and observable sign-posts to a looming suicide in the elderly. This should help in identifying elderly persons who may be in urgent need of client-centered suicide preventive intervention. On the other hand, the quantitative methodology of Ojagbemi *et al* may help in identifying the more remote pointers to suicide in the general population of community dwelling elders. This should help in the development of primary prevention strategies for suicide in the general elderly population. Given the individual advantages of both approaches, an integration of the qualitative and quantitative

Implications for researchers in training

- Qualitative research methods may be suitable for identifying the more immediate pointers to imminent suicide in the elderly
- Quantitative methods may identify more remote risk factors for suicide in the general elderly population
- The combination of both methods in suicide research in the elderly may provide a more in-depth understanding of the complex phenomenon of suicide in the elderly population

methodologies may provide a better platform for unraveling the complex phenomenon of suicide in the elderly. An important way to achieve integration of the two methodologies is the inclusion of qualitative methodologies in the earlier phases of elderly suicide research programmes. This may allow for the development of new theories of relevance to the studied population that can be the subject of further studies using quantitative methods.

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REFERENCES

1. **Diego DL,** Shelley B, M BJ, Kerkhof DJFA, Bille-BraheUnni. Definitions of Suicidal Behaviour. In: Leo DD, Bille-Brahe U, Kerkhof AJFM, Schmidtke A, editors. Suicidal behaviour. Cambridge: Hogrefe & Huber; 2004. p. 17-40.
2. **Mello-Santos C,** Bertolote JM, Wang YP. Epidemiology of suicide in Brazil (1980-2000): characterization of age and gender rates of suicide. Revista brasileira de psiquiatria. 2005;27(2):131-134.
3. **Rudd MD,** Berman AL, Joiner TE Jr., *et al.* Warning signs for suicide: theory, research, and clinical applications. Suicide & life-threatening behavior. 2006;36(3):255-262.
4. **Fossey E,** Harvey C, McDermott F, Davidson L. Understanding and evaluating qualitative research. *The Australian and New Zealand journal of psychiatry.* 2002;36(6):717-732.
5. **Godwin M,** Ruhland L, Casson I, *et al.* Pragmatic controlled clinical trials in primary care: the struggle between external and internal validity. BMC medical research methodology. 2003;3:28.
6. **Kjolseth I,** Ekeberg O. When elderly people give warning of suicide. *International psychogeriatrics*/IPA. 2012;24(9):1393-1401.
7. **Beskow J,** Runeson B, Asgard U. Psychological autopsies: methods and ethics. Suicide & life-threatening behavior. 1990;20(4):307-323.
8. **Ojagbemi A,** Oladeji B, Abiona T, Gureje O. Suicidal behaviour in old age - results from the Ibadan Study of Ageing. BMC psychiatry. 2013;13:80.
9. **Baird EF,** Kaufmann, Walter. From Plato to Derrida. Upper Saddle River, NJ: Pearson Prentice Hall; 2008.
10. **Atherton M.** Berkeley's Anti-Abstractionism. In: Sosa E, editor. Essays on the Philosophy of George Berkeley. Dordrecht: D. Reidel; 1987. p. 85–102.
11. **Martens D.** Research methods in education and psychology : integrating diversity with quantitative & qualitative approaches. Thousand Oaks: Sage; 1998.
12. **Lash TL,** Fox MP, Fink AK. Applying Quantitative Bias Analysis to Epidemiologic Data. illustrated ed: Springer Science & Business Media; 2011. 204.
13. **Smith JA,** Flowers P, Larkin M. Interpretative Phenomenological Analysis: Theory, Method and Research: SAGE; 2009.
14. **Murray CJ,** Vos T, Lozano R, *et al.* Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012;380(9859):2197-2223.
15. **Holland K,** Watson R. Writing for Publication in Nursing and Healthcare: Getting it Right. 2 ed: Wiley; 2012. 288.
16. **Pawson R,** Tilley N. Realistic Evaluation. London: Sage; 1997.
17. **Kish L.** A procedure for objective Respondent selection within the Household. *Journal of the American statistical Association*. 1949;247:380-7.
18. **Malterud K.** Qualitative research: standards, challenges, and guidelines. Lancet. 2001;358 (9280): 483-488.
19. National Institute for health and Care Excellence. The guidelines manual: process and method guide. London: National Institute for health and Care Excellence, 2012.