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Older Patients' Views of Oral Health Care and Factors which Facilitate or Obstruct Regular Access to Dental Care-Services: A Qualitative Systematic Review

Alexander R. Legge,[1,2] Jos M. Latour[3] and Mona Nasser[2]

[1]Plymouth Community Dental Services, Plymouth Dental Access Centre, Plymouth, UK; [2]School of Dentistry, Faculty of Health, University of Plymouth, Plymouth, UK; [3]School of Nursing and Midwifery, Faculty of Health, University of Plymouth, Plymouth, UK

Objectives: Describe independently living older peoples' views of oral-health, and their experiences of accessing dental care-services within community settings. ***Methods***: Dentistry and Oral-Sciences Source, CINAHL, MEDLINE and AMED databases were searched to 15 January 2020. Assessment of methodological quality was undertaken using the JBI Critical Appraisal Checklist. Extracted data underwent meta-aggregative synthesis; findings were assigned levels of credibility and categorised according to similarity. These categories were subsequently synthesised into themes. ***Results***: Five studies were identified and included within analysis. Forty-six findings were aggregated into 18 descriptive categories, which were synthesised into five themes. These themes were Aggregated oral health experience; Taking responsibility for individual oral health; Practical issues related to accessing dental services; Negotiation of cost associated with care and Role of the dental professional. ***Conclusions***: Previous dental healthcare experiences influence older peoples' health perceptions and health-seeking behaviours. Dental service provision and the perceptions of dental professionals require adaptation to accommodate the needs of adults as they age. This includes provision of domiciliary services and nationally subsidised dental care.

Keywords*: aged, dental care, health services accessibility*

Introduction

The global population is ageing at an increasing rate. Between 2012-2015, the elderly population increased by over 55 million, a proportion of 8.5% of the total population. Between 2025-2050, the estimated number of older people will reach 2.1 billion (United Nations, 2017).

As populations age, challenges arise for healthcare-services and professionals; older people present with greater morbidity and dependency (Bots-Vantspijker *et al*., 2014). When considering oral care, trends toward tooth preservation have reduced edentulism (Peterson and Yamamoto, 2005). Dentistry is faced with management of an older population generally retaining at least part of their dentition using complex restorations and prostheses. This restorative shift has increased risk of oral disease in a population already predisposed due to reduced salivary secretions and challenges in maintaining high standards of oral hygiene (Strömberg *et al*., 2012). This includes caries, periodontal disease and tooth surface-loss (Fuller *et al*., 2009).

Oral healthcare for older population requires regular return to services to receive preventive reinforcement and early intervention (Razak *et al*., 2014). However, an association between age and loss of regular contact with dental professionals exists, particularly in populations above 65-years (Grönbeck-Linden *et al*., 2016). The reasons for such a change in service use as patients age are multifactorial (Dolan *et al.*, 2005).

Information is needed about factors that impede or facilitate older people's access to services. Whilst there are population-based analyses, no qualitative review could be identified that explored independently living older people peoples' views about accessing dental services. With the intention of addressing this gap, a systematic review was undertaken, conducted according to an *a priori* protocol (Legge and Nasser, 2020). The aim of this review was to describe independently living older peoples' views of oral-health, and their experiences of accessing dental care-services within the community.

Methods

The review was conducted according to JBI methodology for qualitative systematic reviews (Lockwood *et al*., 2017). The protocol was registered with PROSPERO (CRD42020166436).

Studies were limited to independent community-dwelling older males and females. Independently living individuals would not receive any structured oral-care programme; the authors acknowledge that individual circumstance would differ. However, individuals would face similar challenges, being responsible or at least co-responsible for their healthcare. Definitions of older adult vary between countries. For this review, 'older' refers to those aged over 65 (Kinsella, 1994).

Studies exploring community-based older peoples' views of dental care, as well as experiences and pre-conceptions regarding accessing services were included. Quantitative studies and those addressing attitudes toward oral-health and barriers to healthcare perceived by others (e.g. dentists) were excluded.

Correspondence to: Dr. Alexander Richard Legge Email: Alexander.legge@plymouth.ac.uk

Dentistry and Oral-Sciences Source, CINAHL, MEDLINE and AMED were searched. Strategies used free-text and database specific MeSH terms.

Reference lists of articles identified from the searches were used to identify further relevant studies. English-language articles published within the last 15 years were included. Despite the changing oral health needs of the elderly being noted before 2005, it was from this time that effects of oral health on the quality-of-life of older people was recognised as a public-health issue by the WHO (Peterson and Yamamoto, 2005).

The JBI QARI Critical-Appraisal Checklist for Qualitative Research was used by two independent reviewers, to assess the papers' validity and suitability for inclusion (Lockwood *et al.*, 2015). Disagreement was addressed by discussion to achieve consensus.

Data extraction included details of the population, methods and context. Data were identified through repeated reading. As data were extracted, levels of credibility were assigned. Data were identified through line-by-line coding. Descriptive categories were devised that pooled data according to similarity. Categories then underwent meta-aggregation, producing a body of synthesised results (Pearson, 2004).

Results

The search identified five studies (Figure 1). Four hundred and twenty three articles were identified, pooled, and duplicates eliminated. Screening of titles and abstracts excluded 267 articles, which left 16 for assessment in full; 11 did not match inclusion criteria (Moher *et al*., 2009). Five articles remained for synthesis (Giddings *et al*., 2008; McKenzie-Green *et al*., 2009; Borreani *et al*., 2010; Gregory *et al*., 2012; Derblom *et al*., 2017).

The JBI QARI critical-appraisal checklist was used to assess validity and methodological quality (Table 1). All studies committed to qualitative methods. However, only two explicitly stated philosophical frameworks (Giddings *et al*., 2008; McKenzie-Green *et al*., 2009). When considering *'locating the researcher'* and *'influence of the researcher'*, no studies scored favourably, indicating lack of high-quality reporting. Such reflexivity and self-critique are key to qualitative research; they are invaluable when helping readers interpret data (Braun and Clarke, 2013).

Direct quotes were available to maintain knowledge within its context (Yardley, 2007) in all studies. The relationship between participants' views and the conclusions was demonstrated. It should be considered that 'scoring' of qualitative critical appraisals, does not allow for distinctions to be made between poor reporting as opposed to poor study conduct (Noyes *et al*., 2018).

Characteristics of the included studies are presented in Table 2. They took place in three countries; New Zealand, Sweden and the UK. The criteria to define 'non-institutionalised individuals' were not described in any of the studies.

Two broad phenomena were synthesised. The first concerned older people's experiences and perceptions of healthcare. This phenomenon encompassed values placed on oral healthcare and allowed for insight into behaviours to be gained. This provided context for the second phenomenon of factors impacting upon older people access to care.

Forty-six units of analysis were extracted. Findings were graded as unequivocally, credibly or unsupported by the data. Forty-four units were supported unequivocally, and the remaining units credibly; interpretation could be logically inferred from data. Units of analysis were synthesised and placed into one of 18 descriptive categories. The categories were inductively synthesised into themes. The full meta-aggregative process is presented in a supplementary table (available via http://hdl.handle.net/10026.1/16863).

The five analytical themes were: Aggregated oral health experience; Taking responsibility for oral health; Practical issues related to access; Negotiation of cost and Role of the dental professional.

Aggregated Oral Health Experience

This theme was formulated from five categories, supported by 13 findings. Older peoples' perception of dental care is largely informed by emotional experience and satisfaction with the outcomes of previous visits. Of importance when it came to perception of oral-health and the need to regularly access care were emotions associated with childhood visits. Such findings were evident across all studies.

> *'The murder house was an appropriate name for the school dental clinics, believe me.'* (Gregory, 2012)

Moreover, older adults were aware that their experiences of dentistry had a profound impact on their views of oral healthcare and the associated emotions. This anxiety surrounding care in turn influenced willingness to access it.

> *'He lost his teeth when he was 19 and that was what happened in those days and he hated his false teeth.'* (McKenzie-Green, 2009)

Perceived success or failure of past treatment influenced older peoples' opinions of oral health and care. Individuals who received treatment improving function or appearance, particularly when they compared themselves to those who had not received such care placed great value upon oral health. Views of oral health could also be influenced through experiences of care which impacted negatively upon loved ones.

> *'I went to a dentist and they said I would have to have my teeth removed. My husband said 'no.' ...he hated his false teeth, so he said, 'I don't care how much it costs.*' (Giddings, 2008)

The final two categories pertain to older peoples' tolerance of dental problems, accepting them as everyday experiences rather than health issues requiring attention. This marked a shift in views of oral-health related to net-benefit of accessing and receiving care against cost and inconvenience, when they may not live much longer.

> '*Well hang it all, I am 74 now, it can't really matter can it?'* (Giddings, 2008)

Taking responsibility for oral health

A perception within three studies was that 'oral-health' ceased to exist once people no longer had teeth. Several findings demonstrate ambivalence toward the concept of oral-health and that it pertains to more than health of teeth. They shared the view that once edentulous, there was no need to attend dental services.

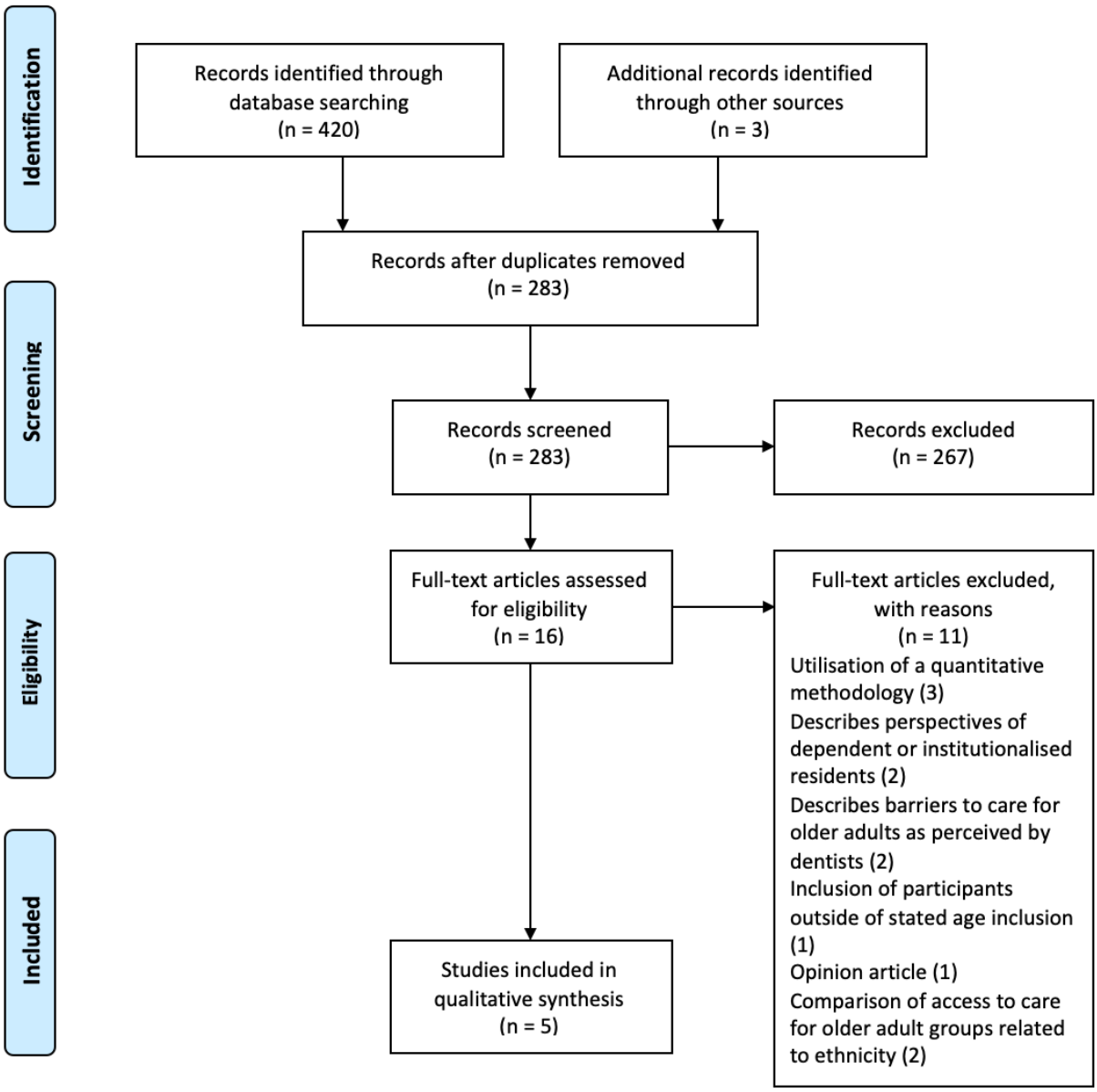

Figure 1. *PRISMA flow diagram of the search-strategy (Moher et al., 2009).*

'*Well, I don't have any teeth and I don't have a problem so it [my oral-health] would be excellent, wouldn't it?*' (Gregory, 2012)

Older peoples' views on oral-health were affected by their knowledge of the subject area; some believed that they were individually responsible for gaining information about oral-health and accessing care, whereas others felt that organising dental appointments was only necessary if in pain or if the dentist called them in.

'I might go for a check-up if he rings but he always sends me a note or if I got toothache.' (McKenzie-Green, 2009)

One finding demonstrates the view that oral-health is considered an extension of general health, and therefore a great deal of emphasis was placed upon maintaining high standards, including regular dental attendance. For others, it was their appearance which informed their views regarding oral health.

'*It's your image when you are mixing with other people; it's... your relationship more personally for breath control….'* (McKenzie-Green, 2009)

A common view was that knowledge of oral disease and health prevention was lacking. Despite acknowledging need for self-care, many expected a natural and inevitable decline in oral health with age. This was compounded by increased difficulties in maintaining standards of self-care due to degenerating mobility and sight.

'...you become shaky and have bad sight, you don't care in the same way as you get older.' (Derblom, 2017)

Individuals who experienced significant dental problems appeared resigned to poor oral health until the point of edentulism, where it ceased to be a problem. In contrast, for those who had not, maintaining oral health was a source of pride.

Practical Issues related to Access

This theme aggregated two categories and six findings. The category "negotiation of convenience" refers to older people needing help arranging dental care and transport. The effort and complexity involved in organising transport and appointments was a barrier to services

Table 1. JBI QARI critical-appraisal checklist: Assessment of methodological quality

Study	*Borreani et al. 2010*	*Derblom et al. 2017*	*Giddings et al. 2008*	*Gregory et al. 2012*	*McKenzie-Green et al. (2009)*
Q1. Is there congruity between the stated philosophical perspective and the research methodology?	U	U	Y	U	Y
Q2. Is there congruity between the research methodology and the research question or objectives?	Y	Y	Y	Y	Y
Q3. Is there congruity between the research methodology and the methods used to collect data?	Y	Y	Y	Y	Y
Q4. Is there congruity between the research methodology and the representation and analysis of data?	Y	Y	Y	Y	Y
Q5. Is there congruity between the research methodology and the interpretation of results?	Y	Y	Y	Y	Y
Q6. Is there a statement locating the researcher culturally or theoretically?	U	U	U	U	N
Q7. Is the influence of the researcher on the research, and vice- versa, addressed?	N	N	N	N	U
Q8. Are participants, and their voices, adequately represented?	Y	Y	Y	Y	Y
Q9. Is the research ethical according to current criteria?	Y	Y	Y	Y	Y
Q10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	Y	Y	Y	Y	Y

Y = Yes; N = No; U = Unclear

for some, whereas for others, it was unwillingness to 'put-upon' family.

'*... you have to book transport or ask someone to drive, it gets complicated with everything.'* (Derblom, 2017)

Lack of flexibility by dental clinics to accommodate transport and timing issues also impeded access. The second category related to opinions that access could be overcome by provision of domiciliary care.

'*…old people may have problems with forgetfulness, it would be helpful if someone could come here.'* (Derblom, 2017)

Negotiation of cost

This theme summarises the role of cost in access and treatment decisions. Older peoples' care-seeking was strongly influenced by perceived cost. Even after experiencing prolonged pain, cost remained a barrier to care.

'*I can't afford to go to the dentist. I have pain sometimes, and have for several months, but it's so expensive.'* (Derblom, 2017)

The costs of restorative procedures prompted participants to opt for more radical, less expensive options such as extraction. Cost became pressing as people relied on pension-based incomes, and other expenses such as general medical care took priority. Maintaining oral health became less feasible for older adults.

Privatisation of the dental sector could compound the cost of care and was viewed as unfair towards low-income older people, left without accessible state-subsidised practices. A linked category within this theme was the view that as lifetime taxpayers, older people had a right to affordable care.

'...dental health is part of ordinary health. We shouldn't have to pay so much to have to go to the dentist, like we don't have to pay so much to go to the doctor.' (Giddings, 2008)

Role of the dental professional

The part played by dental professionals in informing older peoples view of oral-health and their willingness to access services is recognised. Across studies, there was an accepted trust in dentists and respect for their decision-making. Dentists and their behaviours were important contributors to altering peoples' perspectives, and to portraying oral-health and care positively. Confidence in the practitioner was a major facilitator to older people accessing care-services.

'I think it is very important when they say hello and smile and say: 'how are you?' They give that smile and it relaxes you.' (Borreani, 2010)

In two studies, elderly people expressed mistrust when receiving care from auxiliary staff such as hygienists. There was a lack of understanding regarding their role and were seen to be less well-qualified; patients expressed a desire for all care to be undertaken by dentists.

Discussion

Much information is available about experiences of oral health and access to care within care-homes, but little is known about community-dwelling older people. Healthcare experiences influence perceptions and health-seeking behaviours, and this review corroborates this (Lovgren *et al*., 1996; Lee *et al*., 2010). Synthesis of rich, in-depth qualitative studies provides valuable insight into needs

Table 2. Characteristics of the five included studies of Community dwelling older adults

Author	*Qualitative framework and method*	*Phenomena of Interest*	*Setting and participants*	*Analytic technique*	*Authors Conclusion*
Borreani et al. (2010)	No specific philosophical framework mentioned; In depth semi-structured interviews and focus groups	Explain the perspectives of older people of oral health and oral healthcare services. Insight into the oral health behaviours and whether oral healthcare services are of value	South London, United Kingdom; Ten focus groups involving 39 older adults and their carers. 39% aged 65-74 years, 49% aged 75-84 years and 5% over 85 years	Framework	The cumulative effects of dental experiences and events throughout an older person's lifetime influence their perceptions of oral health and dental attendance. Oral health is important as well as the right to accessing state-funded oral healthcare
Derblom et al. (2017)	No specific philosophical framework mentioned; Semi-structured interviews	Older peoples' views of the benefits of regular dental care and investigate the factors that facilitate and impede regular dental care	Senior social centres (unclear of number), Uppsala, Sweden; 15 interviews, participants recruited via adverts in community senior social centres in high and low socio-economic communities	Content	Barriers to dental services include costs and challenges of understanding insurance systems. Practical obstacles include using the telephone and travel, in addition to a lack of confidence in the profession and lack of understanding of the benefits of good oral health in older age. Individual responsibility should be balanced with dental services adapting to the needs of the elderly
Giddings et al. (2008)	Interpretative phenomenological; Semi-structured interviews. Further analysis of themes identified by McKenzie-Green (2009).	Older people's experiences of oral health and the challenges of option balancing faced when accessing services to maintain their current oral health status	New Zealand; 19 in depth interviews. Participant ages between 65-87 years. Participant recruitment via purposive snowballing technique.	Interpretative Phenomenological	The study identifies a lack of awareness of oral health needs by professionals and limited public funding within this area as major barriers to accessing oral health care. Older adults are having to strike a balance between affordability and quality of life
Gregory et al. (2012)	No specific philosophical framework mentioned; Semi-structured interviews	Experiences and perceptions of older people regarding their oral health and oral health care	Otago and Invercargill, New Zealand; 24 in depth interviews. Patients selected at random from electoral rolls. Mean participant age 71	Thematic	Shared experiences affect older peoples' ability to maintain oral health given certain material and social barriers to accessing oral health care. Older adults are more satisfied with care received as their expectations are often lower
McKenzie-Green et al. (2009)	Interpretative phenomenological analysis; Individual semi-structured interviews	Perceptions of oral healthcare practices	New Zealand; 19 in depth interviews. Participant ages between 65-87 years. Participant recruitment via purposive snowballing technique.	Interpretative Phenomenological	A spectrum of factors, including experiences influences perceptions and practices of oral care. Despite access to and affordability of dental care becoming challenging with age, participants were resilient and devised strategies to mitigate their impact. Older adults recognised the social impact of poor oral health. Dentists had a role in supporting or hindering care needs.

and concerns of older adults from their perspective and allows for common themes to be identified across different populations. This is a useful means of prioritising aspects of dental and social care provision where changes can be made and where future impact studies can focus.

Older people expressed views of oral health and maintenance which were often incorrect. Despite acknowledging the role of self-care; pain was often seen to indicate dental disease.

Oral health practices and perceptions are established and institutionalised over a lifetime. It is imperative to consider the social context of care, where outcomes depend on generational or socio-economic circumstance or beliefs (Gibson *et al*., 2019). There are older adults for whom oral hygiene practices have never been established or perceptions of dentistry have not changed with the times. It is these older adults who are resigned to losing their teeth, which is in turn interpreted negatively by those who see the maintenance of their dentition as an accomplishment.

The role of the dentist in health education was supported by the findings, although it is important to consider that only those regularly accessing care benefit from such advice. Most significantly, practitioners needed to be trusted individuals whom older adults felt comfortable visiting regularly to maintain and improve their health collaboratively.

One practical challenge that older people face in accessing care is the inflexibility of healthcare systems to accommodate their needs and abilities. A lack of understanding of difficulties faced when organising and attending appointments is corroborated by literature citing dental professionals having inaccurate perceptions of the impact of aging and apathy towards older adults (Kiyak and Reichmuth, 2005).

The review found that there was consumer-demand for domiciliary services. However, the poor remuneration and logistical challenges of domiciliary care make them unattractive to providers (De-Visschere and Vonobbergen, 2006).

Older people raised concerns about receiving treatment from auxiliary staff. Considering the trend toward skill mix to improve access, it will be useful to conduct further studies on why patients were concerned and how to address this (Brickle and Self, 2017). Despite differences in dental commissioning across the three included countries, all papers included detected cost as a barrier to care. Such findings within New Zealand may be anticipated given private-sector dominance of dental services (Birch and Anderson, 2005). In contrast, in Sweden, government subsidies contribute towards costs, including for prosthetic treatment for over-65s (Kravitz *et al*., 2015). Cost may also act as a barrier may through challenges in understanding and negotiating social-insurance entitlements. The authors recognise that healthcare provision differs globally, and that study generalisability to other contexts is unclear, especially low resource communities.

Conclusion

Experiences aggregated over a lifetime inform older adults' perceptions of oral-health and care providers, which in turn acts as a barrier or facilitator to care. Experience has lasting implications, as does the perception that loss of teeth is a normal part of aging.

Older people share the perception that the lack of affordable care prevents regular access. Oral healthcare fell down the list of personal priorities for older people with pension-based incomes. Older adults faced the stark choice of whether oral care was worth its associated costs and inconveniences, when they may not live much longer. They felt that service access could be improved through the availability and flexibility of dental care, particularly state-sponsored care.

Dentists need to be sensitive to generational differences in dental experiences, as practice has changed dramatically over time. Practitioners should recognise that older adults may value long-term relationships with a practitioner who has gained their trust. Healthcare staff should appreciate that aging impacts upon an individual's ability to access services. Practices could organise appointments to coincide with public transport. Liaison between local councils and dental services would help to make public-transport routes conducive to reaching the dentist. Shifts from nationalised to private practice have impeded access for older people. Future service-commissioning might increase numbers of state-subsidised general practices. There is demand for domiciliary services, which could be made more attractive to care providers.

This review offers pragmatic recommendations to improve older peoples' access dental care, whilst accounting for experiences and perceptions of oral health. Further research could determine how their implementation changes older people's access.

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