



Social networking site (SNS) use by adolescent mothers: Can social support and social capital be enhanced by online social networks? – A structured review of the literature



Samantha Nolan, RM^{a,*}, Joyce Hendricks, PhD, MN, RN, RM Associate Professor^b, Sally Ferguson, PhD. Assistant Professor in Midwifery (Clinical)^c, Amanda Towell, PhD. Post-Doctoral Research Fellow^d

^a Faculty of Health University of Canberra University Dr, Bruce ACT 2617, Australia

^b Higher Education Division Nursing, Midwifery and Social Science CQUniversity Australia, Level 21, 160 Ann Street, Brisbane, Queensland 4000, Australia

^c Faculty of Health University of Canberra University Dr, Bruce ACT 2617, Location: 10B41, Australia

^d School of Nursing and Midwifery Edith Cowan University, 270 Joondalup Drive, Joondalup, WA, 6027, Australia

ARTICLE INFO

Keywords:

Adolescent mother
Teenage mother
Social support
Social capital
Social networking sites
Structured review

ABSTRACT

Aims and objectives: to critically appraise the available literature and summarise the evidence relating to adolescent mothers' use of social networking sites in terms of any social support and social capital they may provide and to identify areas for future exploration.

Background: social networking sites have been demonstrated to provide social support to marginalised individuals and provide psycho-social benefits to members of such groups. Adolescent mothers are at risk of; social marginalisation; anxiety disorders and depressive symptoms; and poorer health and educational outcomes for their children. Social support has been shown to benefit adolescent mothers thus online mechanisms require consideration.

Design: a review of original research articles

Method: key terms and Boolean operators identified research reports across a 20-year timeframe pertaining to the area of enquiry in: CINAHL, Cochrane Library, Medline, Scopus, ERIC, ProQuest, PsychINFO, Web of Science, Health Collection (Informit) and Google Scholar databases. Eight original research articles met the inclusion criteria for this review.

Findings: studies demonstrate that adolescent mothers actively search for health information using the Internet and social networking sites, and that social support and social capital can be attributed to their use of specifically created online groups from within targeted health interventions. Use of a message board forum for pregnant and parenting adolescents also demonstrates elements of social support. There are no studies to date pertaining to adolescent mothers' use of globally accessible social networking sites in terms of social support provision and related outcomes.

Conclusions: further investigation is warranted to explore the potential benefits of adolescent mothers' use of globally accessible social networking sites in terms of any social support provision and social capital they may provide.

Introduction & background

Adolescent mothers have been the focus of worldwide government reports and intervention strategies since the 1990s (Social Exclusion Unit, 1999 - 2010; Department Of Health, 2010; Price-Robertson, 2010; Department of Health & Human Services, 2016), due to reported inequalities in the future health, wellbeing and life chances of

adolescent mothers and their children (Australian Social Inclusion Board, 2010; Jutte et al., 2010; Uzun et al., 2013; Mollborn et al., 2014; Cook and Cameron, 2015). The social impact of adolescent parenting includes the risks of developing less functional parenting behaviours (Crugnola et al., 2014; Lee, 2009), reduced employment opportunities and increased reliance on welfare (Taylor, 2009; Kane et al., 2013; Assini-Meytin and Green, 2015; Cook and Cameron, 2015).

* Corresponding author. Present Address: 19 Rainbird Close, Burleigh Waters, Queensland 4220.

E-mail addresses: u3164519@uni.canberra.edu.au (S. Nolan), j.hendricks@cqu.edu.au (J. Hendricks), Sally.Ferguson@canberra.edu.au (S. Ferguson), a.towell@ecu.edu.au (A. Towell).

<http://dx.doi.org/10.1016/j.midw.2017.03.002>

Received 23 May 2016; Received in revised form 28 February 2017; Accepted 5 March 2017
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‘Adolescence’ for the purpose of this paper describes the ages between 10 and 19 years of age as termed by the World Health Organisation (2014).

For many decades research has consistently found that human interaction, termed ‘social support’, is a causal contributor to individual health and well-being (Cobb, 1976; House, 1981; Cohen and Wills, 1985; Cohen and Syme, 1985). The role of support, provided by either family members, peers and / or professionals following the birth of a baby has been widely explored, often with inconclusive results (Barlow et al., 2011; Negron et al., 2013; Angley et al., 2015). Social support is a broad, multidimensional concept, often measured in terms of being either ‘perceived’ or ‘enacted’, ‘structural’ or ‘functional’, and as having multiple components that may include; emotional; instrumental / tangible; appraisal, and; informational forms of support (House et al., 1985; Mason, 2016). This review will incorporate literature that identifies the provision or perception of any element described as ‘social support’.

Social capital is a concept closely linked to social support and is widely conceptualised as the resources that are invested into and produced by social relationships and networks and their value for both individuals and groups (Bourdieu, 1986; Coleman, 1988; Putnam, 2000). Kawachi et al. (1997) sought a more pluralistic approach in an attempt to unify key elements of social capital theory. This has resulted in relative consensus that social capital includes elements of social networks that can bring about positive social, economic and health development, both at the ‘micro’ (individual or family) or ‘macro’ (local, national or international) level (Ottebjør, 2005; Morgan and Haglund, 2012). Quite simply explained, social capital is the personal and societal benefits that are experienced by having social relationships with others, although a lack of consensus on measurements for social capital makes it difficult to compare studies, particularly across social groups (Acquaah et al., 2015; Choi et al., 2014).

For adolescent mothers, increased social support has been demonstrated to correlate with improved postpartum adjustment and related psychosocial outcomes (Unger and Wandersman, 1985; Turner et al., 1990; Whiteley and Brown, 2010; Brown et al., 2012; Mills et al., 2013; Kim et al., 2014). Whiteley and Brown (2010) and Mills et al. (2013) posit that supportive, interactive relationships and decreased feelings of social isolation contribute to improved mental wellbeing for this group of mothers. When it comes to accessing social support however, adolescent mothers often find themselves marginalised from mainstream society due to pre-existing and ongoing social and economic disadvantage (Department Of Health, 2010). Community-based, face-to-face parenting support programmes have long been recognised as a valuable means of social support provision for general populations of new mothers, demonstrating the ability to help them build supportive networks, forge friendships and develop a sense of connectedness to the local community (Strange et al., 2014; Guest and Keatinge, 2009). In contrast, Asheer et al. (2014) and Keys (2008) highlight that due to multidimensional problems often faced by adolescent mothers, such as limited transport availability and financial constraints, attendance at such programs may be particularly challenging.

Facebook, launched in 2004, and one of the most widely used social networking sites (SNS), is currently reported to have over 800 million daily users worldwide (Wilson et al., 2012), with Twitter and Instagram rapidly gaining in popularity (Brenner and Smith, 2013; Duggan et al., 2015). Social groups accessed via such sites pose fewer of the identified constraints associated with traditional support group attendance and offer the potential to facilitate effective social support provision for vulnerable individuals, particularly for those at risk of depression (Griffiths et al., 2009; O’Dea and Campbell, 2011). Grieve et al. (2013) studied general populations of Facebook users and confirm its social support benefits, suggesting that the social connectedness offered by Facebook may reduce the incidence of depression and increase satisfaction with life. This is pertinent as adolescent mothers are demonstrated to be at significantly higher risk of depression and

anxiety related symptoms than non-adolescent mothers (Reid and Meadows-Oliver, 2007; Mollborn and Morningstar, 2009; Collingwood, 2010; Yozwiak, 2010; Kim et al., 2014; McCracken and Loveless, 2014; Aitken et al., 2016;).

Researchers have demonstrated the value of online social support in increasing both social support and social capital for general populations of mothers (Drentea and Moren-Cross, 2005; Herman et al., 2005; Hudson et al., 2009; McDaniel et al., 2012; Jang and Dworkin, 2014) and in providing effective social support to many other individuals who find themselves marginalised from mainstream society (Notley, 2009; Barnfather et al., 2011; Gowen et al., 2012). For individuals with Internet access social relationships can now be initiated and fostered online, with the current ‘explosion’ of social media affording the majority of Australian adolescents’ access to SNS on a daily basis via mobile phones or computer devices (Dooley and Scott, 2012). This means that adolescent mothers have access to a wide range of SNS and online support groups worldwide which may provide information, advice and support, and possibly contribute to improved social capital and related outcomes.

For the purpose of this review a ‘social networking site’ is used to describe any website or online place that enables users to create public profiles, form relationships and build networks with other users (Ellison, 2007; Wink, 2010) and includes synchronous (real-time) and asynchronous (on-going) communications.

This review is necessary to determine whether adolescent mothers access SNS, and if SNS demonstrate the ability to provide much needed social support and social capital related benefits for this particular group of mothers.

Aims and objectives

The aim is to critically appraise the available literature and summarise evidence related to the use of SNS by adolescent mothers, relating such use in particular to social support provision and/or associated social capital related benefits. A structured review of literature is a means by which critical, high quality literature, central to and underpinning the research topic, is rigorously and systematically mapped out (Tranfield et al., 2003). The aim of a structured review is to synthesise prior research studies in a transparent and reproducible way in order to increase knowledge of the topic and inform both practice and policy.

Therefore, the questions are posed: Do adolescent mothers access SNS, and if so, do SNS provide any benefits to adolescent mothers in terms of social support and social capital?

This review will also identify areas for future exploration.

Method

This review was conducted using Kable et al. (2012) 12 step approach, formulated to assist authors with clear and concise documentation of a search strategy. PRISMA guidelines were also adhered to in the reporting of this review to ensure credibility and transparency (Moher et al., 2009). The following databases were searched: CINAHL, Cochrane Library, Medline, Scopus, ERIC, ProQuest, PsychINFO, Web of Science and Health Collection (Informit). Key terms and Boolean search operators were used to broaden the search criteria.

The search was conducted in April 2015, as an integral component of a PhD research study. The purpose was to locate published primary research related to the use of SNS by adolescent mothers, with particular reference to social support and / or social capital related themes. The quality of included studies was assessed using critical appraisal tools relevant to each type of study design. The results and quality assessments were verified by two researchers to improve the quality of the review process.

Inclusion criteria

Papers were included based on the following criteria: English language, original research papers related to the uses, and associated benefits of SNS use, by adolescent mothers in terms of social support or social capital, limited to the adolescent mothers' experience, and; published between January 1995 and April 2015. To be included the studies either described their sample as 'adolescent' or predominantly included participants within the WHO definition of adolescence (2012), between 10 and 19 years of age.

Papers were excluded if they only related to private components of Internet communication such as email rather than interactive, synchronous (real-time communication) networking sites or ongoing forms of asynchronous communications such as discussion boards. Dates for the search were limited to January 1st 1995, as this date precedes the first seminal study related to computer-mediated support for adolescent mothers identified (Dunham et al., 1998), to April 2015.

Search terms: adolescent mother, teenage mother, young mother, 'social networking sites', online, email, Internet, web, computer, social media, Facebook, social support, social capital, information.

Boolean operators were included in search terms, using truncation to further broaden results and include plurals or similar terminology:

'Adolescen* mother*' OR 'teen* mother*' OR 'young mother' AND 'social network* site*' OR 'social media' OR email* OR online* OR computer* OR internet* OR web* OR Facebook AND social support OR social capital OR information.

Titles, abstracts and keywords were the primary search fields selected unless results were limited in which cases all fields / texts were searched. The search terms were tested to check that they effectively located the types of articles that were consistent with the inclusion criteria prior to conducting the search in all engines, and assistance was sought from an experienced university librarian to ensure effective search terms and methods were employed.

Google and Google Scholar searches were also conducted to identify any grey literature. Key literature retrieved was hand searched in order to identify any relevant references to related literature. Recurrent searches of several databases yielded repeated sources so the researcher was satisfied that saturation had been achieved. Eight relevant studies were identified using the flow chart process illustrated in Fig. 1. The number of retrieved articles from each database is outlined in Table 1. Studies using all methodologies, quantitative, qualitative and mixed-methods, were included in this review.

The search was conducted sequentially through the databases, papers not meeting the initial inclusion criteria were excluded and duplicate papers were identified. Google searches yielded no additional literature of relevance to this review. Searching reference lists of key articles led to the identification of one additional paper of relevance (Hudson et al., 2009). The search was repeated immediately prior to submission to locate recent publications however no further studies were identified at this time. Following a review of the papers either by reading the abstract (or where necessary, the full paper), eight papers were included in the detailed review process and are detailed in Table 2.

Assessment of the papers

Quality appraisal of the selected literature was conducted (see tools and quality indicators in Table 3). The four mixed methods studies and

the three quantitative studies were assessed using the Evaluative Tool for Mixed Method Studies (Long et al., 2002b), and the Evaluation Tool for Quantitative Research Studies (Long et al., 2002a) respectively, both tools consider internal and external validity measures and were created by the School of Healthcare at the University of Leeds, UK. The single qualitative study was assessed using The CASP Qualitative checklist (Critical Appraisal Skills Programme, 2013), created by the Public Health Resource Unit, funded by the NHS, UK. These quality assessment tools are all recommended by the Sansom Institute for Health Research, which is part of the International Centre for Allied Health Evidence at the University of South Australia. This international centre excels in health research assessment which explains why tools recommended by them were used to appraise the literature in this review.

Each of these assessment methods has a checklist to determine the quality of the papers analysed and the scores achieved are included in Tables 2 and 3. One point was awarded for each criterion achieved using categories designed to reflect the quality of each paper. Criterion bearing no relevance to the particular study were scored as not applicable. These were not criteria that failed to be met, rather that did not apply depending on the design of the study. The tools were created to assist with the quality assessment of research papers however the reviewer must personally determine the overall quality of a study. For the purpose of this review studies were deemed to demonstrate quality, and thus were included in this review, if they achieved a high quality score as outlined in Table 3, and demonstrated quality across all areas considered by the relevant checklist.

Findings

All eight papers report of adolescent mothers using SNS and describe social support benefits attributable to such use. Five papers (Dunham et al., 1998; Hudson et al., 1999; Kauppi and Garg, 2008; Hudson et al., 2009; Hudson et al., 2012) involved the distribution of computer-mediated support systems to adolescent mothers recruited to specific sample groups, and were conducted in Canada or the U.S. These online group interventions, accessible only to those participating in the intervention (closed-access) were demonstrated to provide the adolescent mothers with elements of tangible, emotional and informational support, and to reduce social isolation, largely via peer support channels. Moreover, in a seminal mixed method study by Dunham et al. (1998), they found adolescent mothers who accessed such support systems most frequently over a period of six months exhibited reduced levels of parental stress and an improved 'sense of community', both benefits indicative of improved social capital. On the basis of these findings, Dunham and associates proffered doubt that any face-to-face community service could provide the quantity of such timely support as was demonstrated by the mothers' exchanges within the online network.

Of the studies that included targeted online interventions, four included nurse – mother interaction via SNS (Hudson et al., 1999; Kauppi and Garg, 2008; Hudson et al., 2009; Hudson et al., 2012) and demonstrated the additional perceived value of online support given by a healthcare professional. In particular, online professional support was linked by Hudson et al. (2012) to reduced emergency room visits for infants of adolescent mothers using the intervention. The provision of effective peer-led, and nurse-driven support was consistent across methodologies.

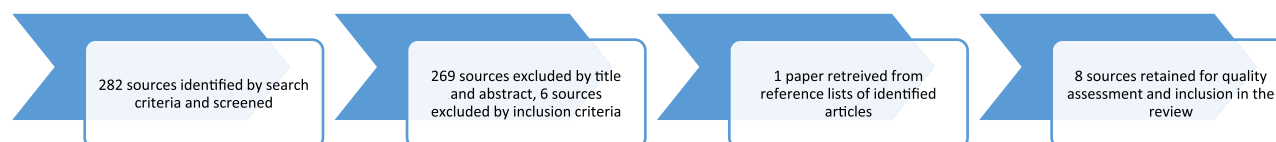


Fig. 1. - Flow Chart of Literature Screening.

Table 1
Results of Literature Search.

Search Engine	Search terms	# retrieved	Met criteria, Plus, if duplicated (dup)
Cinahl Plus , (databases included; Cinahl, ERIC, Medline, PsychINFO)	"adolescen* mother*" OR 'teen* mother*' OR 'young mother' (S1) AND 'social network* site*' OR 'social media' OR email* OR internet* OR computer* OR web* OR online* OR Facebook (S2)	6933 137	7
Cochrane Library	AND social support OR social capital OR information (S3) S1 + S2 + S3	60 78 10 5	0
Scopus	S1 + S2 + S3	15257 536 39	5 (5 x dup)
ProQuest (All databases)	S1 + S2 + S3	13543 312 78	7 (7 x dup)
Web of Science	S1 + S2 + S3	11337 45 69	4 (4 x dup)
Health Collection (Informit)	S1 + S2 + S3	1130 55 32	0

Sherman and Greenfield (2013) assessed social support benefits related to use of a message board forum specific to pregnant and parenting teens, demonstrating that asynchronous networking sites are also deemed supportive, providing instrumental, emotional and informational support, particularly when adolescent mothers interact as a homogenous group. They recommend populations of pregnant and parenting teens interact exclusively online in order to effect a more supportive environment.

The two remaining papers by Logsdon et al. (2014, 2015) surveyed adolescent mothers in the U.S in regard to their preferred methods of obtaining health information. They report that large numbers of adolescent mothers prefer to search for health information using the Internet and SNS such as Facebook, thus consider these mediums to be potential vehicles for the dissemination of health interventions. The authors found that adolescent mothers in the U.S spend a significant amount of time on the Internet, with SNS being used to search for information and 'as a coping strategy' however more complex insights into such uses and associated values were not provided.

It may be noted that studies using qualitative methods, including mixed-methods, offered deeper insight into perceived provision of social support via SNS, and the benefits and values associated with such use. All the included studies however, regardless of their methodology, report at least one type of social support provision (tangible, emotional or informational) to adolescent mothers as a result of SNS use.

Discussion

The studies included in this review demonstrate that adolescent mothers use online message boards and SNS created for specific online health interventions, and that valuable social support can be found in such use. Whilst studies have indicated that global SNS such as Facebook are widely used by adolescent mothers to search for health information, there is a paucity of knowledge related to social support and social capital provided by global SNS use for this group of mothers. Global SNS such as Facebook have existed since 2004, yet it is unclear whether such sites offer similar social capital related benefits to adolescent mothers as those attributable to the use of specifically created SNS in closed-access, computer-mediated health interventions, and this therefore limits the scope of the review.

Online message boards have been shown to provide valuable

elements of social support (Sherman and Greenfield, 2013), however multifaceted SNS such as Facebook offer more diverse opportunities for social networking, via multiple group memberships, photo sharing, 'friendship' links and synchronous communications which may further enhance support opportunities. All closed-access social networking systems reported upon in this review demonstrate social support provision and social capital related benefits for the adolescent mothers who used them, suggesting such systems and networks have undeniable value and should be considered when developing targeted maternity care services.

Hudson et al. (2012) and Logsdon et al. (2014) indicate that online interventions may be well placed for midwifery, nursing or healthcare driven support and education for adolescent mothers. With the advent of SNS such as Facebook, midwives and nurses have access to a medium that could potentially perform and provide support in similar ways to the online systems created by others (Dunham et al., 1998; Hudson et al., 1999; Kauppi and Garg, 2008), without requiring the provision of computer equipment and specific software. Further knowledge is required to appraise global SNS as a similarly suitable medium to deliver health and/or support interventions to this target group.

Professional support via online interventions has been demonstrated to positively affect outcomes for infants of adolescent mothers (Hudson et al., 2012), and for adolescent mothers themselves (Hudson et al., 1999; Kauppi and Garg, 2008; Hudson et al., 2009), yet healthcare providers and policymakers remain fearful of involvement with social media and SNS such as Facebook (Lambert et al., 2012; MacMillan, 2012; Kravitz, 2013). The associations made by Hudson et al. (2012) between online support and reduced emergency room admissions, and Dunham et al. (1998) in terms of improved mental health outcomes, demonstrate the potential of online support to benefit society in terms of overall health development and more effective use of healthcare services. Moreover, the fact that large numbers of a difficult to reach group, teens, access SNS on a daily basis (Dooley and Scott, 2012; Duggan et al., 2015) means that any related benefits need to be harnessed by healthcare providers.

Support received via specific SNS systems has been demonstrated within this review to reduce adolescent mothers' parental stress and social isolation, and assist them to build valuable social capital. Such benefits are particularly important for adolescent mothers due to their high risk of ongoing mental health issues, social isolation and margin-

Table 2
Summary of Included literature.

Author Year country	Study Design	Sample size & sites	Design / Data collection methods	Key Findings / comments	Quality Appraisal Tool. include/exclude
1 Dunham et al. (1998) . "Computer-Mediated Social Support (CMSS): Single Young Mothers as a Model System" <u>American Journal of Community Psychology</u> . Vol. 26, No. 2. Canada Found in: PsychINFO, ProQuest, Web of Science	Mixed Method Participatory action research	convenience sample 42 single adolescent (aged 15–20) mothers	Mixed methods. Monitoring CMSS use / measuring exposure to CMSS. Qualitative-thematic analysis of online messages, Quantitative- use of questionnaires, PSI / Sense of Community Scale	Adolescent mothers actively participated in the CMSS. Reduced parental stress, and an improved 'sense of community' demonstrated by those using the CMSS more frequently. Three forms of positive social support provided by use of CMSS, emotional (56%) informational (37%) and tangible support (3%). The YPP served as a mechanism for providing health information and social support (emotional support) to adolescent mothers. Findings suggest this model is also likely to be an effective medium for providing nursing care to adolescent mothers	Evaluation Tool for Mixed Method Studies. Prof Andrew Long (2005), School of Healthcare, University of Leeds 35/39 relevant criteria High quality INCLUDE
2 Hudson and Elek (1999) "Young Parent's Project: a 21 st century nursing intervention" <u>Issues in Comprehensive Pediatric Nursing</u> . Oct-Dec; 22 (4): 153-65. U.S Found in: CINAHL, Scopus, ProQuest	Mixed method Pilot study; exploratory, descriptive, content analysis +Quantitative measures	Convenience sample 9 pregnant adolescents (aged 15–19) recruited to participate in the "Young Parent's Project" (YPP)	Qualitative. Content analysis of online messages/ emails, Questionnaire Interview Descriptive stats Thematic analysis of messages	The YPP served as a mechanism for providing health information and social support (emotional support) to adolescent mothers. Findings suggest this model is also likely to be an effective medium for providing nursing care to adolescent mothers	Evaluation Tool for Mixed Method Studies. Prof Andrew Long (2005), School of Healthcare, University of Leeds 35.5/39 relevant criteria High quality INCLUDE
3 Kauppi, C and Garg, R. (2008) "Development of Cybermons: A Computer-mediated Peer Support Group to Address the Needs of Young Mothers" <u>Currents</u> , 7(2) Canada Found in: ProQuest	Mixed method Longitudinal 3.5-year study.	Convenience sample 72 adolescent (aged 15–19) pregnant teens and teen mothers	Quantitative – structured interviews / self-report questionnaires Qualitative – structured interviews and content analysis of online messages	The internet based peer support group was considered the most valuable aspect of the multi-faceted project by the participants. The online group gave them access to emotional, informational and practical support and reduced social isolation.	Evaluation Tool for Mixed Method Studies. Prof Andrew Long (2005), School of Healthcare, University of Leeds 30.5/39 relevant criteria High quality INCLUDE
4 Hudson et al. (2009) "Online Support for single, low income African American Mothers" <u>The American Journal of Maternal Child Nursing</u> Nov-Dec; 34 (6): 350-5 U.S Found in: CINAHL, PsychINFO, Scopus, ProQuest, Web of Science	Qualitative Content analysis	Convenience sample 20 single, low-income, African American mothers (aged 16–21) had access to the "New Mothers Network" (NMN) discussion forum.	Qualitative Thematic analysis of discussion board / online forum message content	Mothers used the NMN discussion forum to share their experiences as new mothers and to seek guidance and support from the research nurses and each other. 8 themes identified relating to social support.	CASP Qualitative checklist. Public Health Resource Unit, UK 36/43 relevant criteria High quality INCLUDE
5 Hudson and Campbell-Grossman (2012) "Effects of an Internet intervention on mothers' psychological, parenting and health care utilization outcomes" <u>Issues in Comprehensive Pediatric Nursing</u> . Vol 35(3–4), 2012 pp. 176–193 U.S Found in: PsychINFO, Scopus, ProQuest	Quantitative Longitudinal/ Experimental Design	Convenience sample 42 single, low-income, adolescent, (aged 16–21) African American mothers randomly assigned to one of two groups, control or intervention. Intervention being use of the "New Mothers Network" (NMN)	Quantitative Data collection tools x 8 (Questionnaires).	Reduction in emergency room visits for infants of intervention group. No differences between the groups regarding depression, stress, parenting competence, loneliness, and satisfaction scores. The online intervention (NMN) is well poised for nurse driven social support via the internet.	Evaluation Tool for Quantitative Research Studies. Prof Andrew Long, School of Healthcare, University of Leeds 44.5/45 relevant criteria High quality INCLUDE
6 Sherman and Greenfield (2013) "Forging Friendship, soliciting support: A mixed method examination of message boards for pregnant teens and teen mothers". <u>Issues in Comprehensive Pediatric Nursing</u> . Vol 35(3–4), 2012 pp. 176–193 U.S Found in: PsychINFO, Scopus, ProQuest	Mixed method Content analysis	Convenience sample – Threads from 4 message boards specifically for pregnant and parenting 'teens' were analysed,	Content analysis of message board posts	Analysis revealed frequent instances of emotional, instrumental and informational support within message board posts. Online communities for pregnant	Evaluation Tool for Mixed Method Studies. Prof Andrew Long (2005), School of Healthcare, University of Leeds (continued on next page)

Table 2 (continued)

Author Year country	Study Design	Sample size & sites	Design / Data collection methods	Key Findings / comments	Quality Appraisal Tool. include/exclude
Computers in Human Behavior, Vol 29(1), Jan, 2013 pp. 75–85. U.S Found in; PsychINFO, ProQuest, Web of Science		with 50 users from each forum selected based on participation. Identified as pregnant teens = 43.3%		adolescents/adolescent mothers are deemed supportive, provided that these communities are populated by other young mothers or Mothers-to-be.	36.5/38 relevant criteria
7 Logsdon et al. (2014) "Preferred Health Resources and Use of Social Media to Obtain Health and Depression Information by Adolescent Mothers". Journal of Child & Adolescent Psychiatric Nursing, 2014 Nov; 27 (4): 163-8. U.S Found in; CINAHL, MEDLINE, Scopus, ProQuest	Quantitative Cross-sectional /descriptive Quantitative measures	Multi-centre, convenience sample n=94 & n=91 total 185 adolescent mothers (aged 13–18)	Questionnaire Pew Internet Survey (37 questions related to use of social media and Internet; particularly in regard to obtaining health information	Adolescent mothers spend significant time on the Internet including searching for health information. Cell phones are their preferred methods for accessing the Internet, and they use social media such as Facebook to search for health information and as a coping mechanism.	High quality INCLUDE Evaluation Tool for Quantitative Research Studies. Prof Andrew Long, School of Healthcare, University of Leeds 43/45 relevant criteria High quality INCLUDE
8 Logsdon et al. (2015) "Use of social media and Internet to obtain health information by rural adolescent mothers". Applied Nursing Research 2015 Feb; 28 (1): 55-6. U.S Found in; MEDLINE, Scopus, ProQuest, Web of Science	Quantitative Cross-sectional /descriptive Quantitative measures	Convenience sample 15 adolescent mothers(aged 13–18)	Questionnaire Pew Internet Survey	Rural adolescent mothers spend significant time on the Internet including searching for health information. Cell phones are their preferred methods for accessing the Internet, and they use social media such as Facebook to search for health information.	Evaluation Tool for Quantitative Research Studies. Prof Andrew Long, School of Healthcare, University of Leeds 35.5/45 relevant criteria High quality INCLUDE

Table 3

Criteria used to determine methodological quality of papers.

Checklist	High Quality	Medium Quality	Low Quality
Evaluative Tool for Mixed Method Studies	27–39	14–26	1–13
Evaluation Tool for Quantitative Research Studies	31–45	16–30	1–15
The CASP Qualitative checklist	30–43	15–29	1–14

alisation due to poor engagement with health, educational and employment services (Cook and Cameron, 2015). If similar outcomes were known to be attributable to the use of global SNS by this targeted group, it would suggest that promotion of, or even the creation of such sites should be considered by modern-day healthcare professionals caring for adolescent mothers.

With Sherman and Greenfield (2013) suggesting that adolescent mothers find homogenous online groups to be the most supportive, meaning those populated predominantly by pregnant or parenting teens, further exploration of global SNS use would further this knowledge and determine whether adolescent mothers are indeed more vulnerable when interacting among the worldwide parenting population at large. The ability of global sites to provide social support and social capital to adolescent mothers has yet to be demonstrated, however the potential for social media use to positively influence public health is certainly high on the global agenda (Morris et al., 2011; Woolley and Peterson, 2012; Wilson et al., 2012; Ferguson, 2013; Zhang et al., 2013; Price et al., 2014; Horvath and Ecklund, 2015). Health professionals are also in a pivotal position to provide information to clients to improve and maintain their ‘cyber-safety’ when interacting in online environments (Moreno et al., 2013).

Conclusion

Adolescent mothers have been shown to use SNS, as part of closed-access online interventions, via message boards or via sites such as Facebook to seek healthcare information. Social support provision via online systems is evident, with outcomes related to health education, improved mental health and enhanced social inclusion attributable to such use of SNS. Further exploration of global SNS use by adolescent mothers would determine whether the same social capital related benefits are achievable by global SNS access, as those afforded by specific online interventions. This review highlights the need to inform maternity service providers and encourage them to be more responsive to adolescent mothers’ use of SNS in terms of the social support and social capital these forums may provide.

Additional research into globally accessible SNS would enable midwives and policy makers to determine whether closed-access online interventions are still considered necessary, or whether similar benefits are attainable by promoting and engaging in adolescent mothers’ use of global SNS. It may also stimulate further discussion around the integration of healthcare practices and professionals into widely accessible SNS environments in order to potentiate further benefits in terms of social capital related outcomes.

Acknowledgements

There has been no financial assistance associated with this review. All work is by the stated authors.

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